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ORIGINAL ARTICLES.

BIOLOGY THE BASIS OF SCIENTIFIC MEDICINE.*

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According to some recent generalizations of an English statistician physicians are not rated among the thinking class. At first thought, one is disposed to regard the statement as a libel on the profession, conceived in spite by a man who had taken probably some very bitter draught and had suffered much at the hands of physicians. But on second thought, the statement does not seem so very wide of the truth. If we except the typical theologian, the typical physician is more deficient in the power of originality, more loth to accept new ideas, more trammelled by routine and more strongly wedded to old notions and antiquated methods than any other class of intelligent men. The advanced doctrines of medical philosophy have not, as a rule, originated with him nor with the medical profession. The advanced ideas of aetiology, physiology and pathology—sciences, a knowledge of which is fundamental to rational conceptions of physic—have been for the most part imposed on the profession by men who never had the honor of the degree of M.D.—many of whom could not even lay claim to an *alma mater*. The great names of Bacon, Descartes, John Hunter, Pasteur, Darwin, Lubbock, Haeckel, Huxley and John Tyndall present themselves to us in this connection.

We make this humiliating admission in a spirit of no reproach to an honored profession. Unhappily, the physician is often too closely occupied with the details of symptoms and in racking his brain over means of relieving pain and exorcising whims, looking after the spoils and emoluments of his position, etc., to think much on the nature and meaning of the phenomena known as malady. Having once accepted doctrines and adopted methods—improved ones, perhaps—he does not like to have their validity disturbed, and is apt to settle down in the complacent belief that they cannot be any further improved; that they embody the ultimate of human wisdom. Moreover, in general, the physician is a man of *action*, a mental quality which is opposed to that of *thinking*. Suffering presents itself to him as an evil of most positive characteristics to be subdued, rather than as a phenomenon of abnormal character, legitimate and beneficent, under the conditions in which it occurs. So closely is he confined to symptoms and remedies that he loses sight of aetiology, confuses the relation of cause and sequence, and confounds the phenomenal with the actual. He is thus led away from rational data, loses his logical bearings, and drifts into pure empiricism in his treatment of the sick. This unfortunate habit is almost as likely to befall the new school man as the old. The former would be surprised, we think, were he to examine himself at the bar of a critical judgment, to find how frequently he lapsed from the rigid

habit of individualizing his cases into that of loose empiricism—giving off-hand the best approved remedies for such and such well known cases—a habit just as unthinking as that of his old school brother, and the consequences of which are only less serious than his, because his doses are less potent. To such a physician it would be as well were there no science of morbid causes, aetiology; no science of morbid sequences, pathology; and no science of living beings, biology, morphology, etc. But how is it with his patients, the ignorant, suffering, credulous dupes who put their trust and confidence in him? It surely cannot be so well for them, unless science be devoid of utility in the affairs of human life, and philosophy be a device to amuse the visionary and impracticable. The truth is, a sound medical philosophy is of the highest practical importance to the sick. We owe it to them, as well as to ourselves, to set our logical intuitions in order, to the end that we may always distinguish between disease and its causes and be able to establish a rational therapeutics for every sick person whose case is submitted to us.

How can this be done? How can greater certitude in the aetiology and therapeutics of the phenomena known as malady be introduced? We answer: By extending our knowledge of normal life-forms, studying the modifications which take place in them under mal-influences, and enlarging our conceptions of those causes which abnormally influence living beings. To this end it is necessary that we should become thinkers. Why, it is a dreadful thing to have brains and not know how to use them! It is necessary that we should think on nature and her processes, and comprehend the science of living forms—the order and conditions of their normal development, and the order and conditions of their abnormal development. This comprehends many subjects that are fundamental to physiology proper, namely, biology, morphology and anthropology. But if these sciences are fundamental to physiology, they are also fundamental to medicine. It is only by following the lines of study which these subjects afford that a knowledge of man and his various modifications can be obtained. And surely, who is qualified properly to minister to the needs of a being of the nature and constitution of which he is ignorant?

Prof. Huxley has aptly said that "pathology is a branch of biology; it is," he says, "the morphology, the physiology, the distribution, the aetiology of abnormal life." This proposition may appear to many professors in the medical schools far-fetched and impracticable. But it is neither. The student of biology, using that term in the larger sense—the sense in which M. Comte used it—knows that every form of being, of "living matter"—to use Prof. Huxley's accurate phraseology—has, under proper conditions or environment, a regular order of development, which is recognized as normal; and that under improper conditions or environment, it has an irregular order of development which is recognized as abnormal. Life under one condition is healthy; under the other, diseased. This law is as absolute in the vegetable kingdom as it is in the animal

* Read before the Clinical Club, New York, Nov. 2, 1883.

kingdom. Any deflection from the normal type, in any order or species of being, is evidence of improper or abnormal environment. Disease has, therefore, a natural history. The deformities of the species have their *raison d'être*. They rest on antecedents, abnormal, it is true, but as legitimate as any class of phenomena. The law is illustrated in the development of primordial germs of living matter, as well as in the higher forms and types of being. The higher the organism the more pronounced is the operation of the law. It is observed, not only in the morphology of plants, of germinal matter, and cell formation, but in the ethnological types and the distribution of mankind, and especially in the abnormal deflection of these types, by reason of morbid causes, from their original or ideal types. This deflection constitutes the pathology of chronic diseases of the human species, or the organic results of development under unnatural conditions, or in an abnormal habitat. This is not the proper occasion specifically to trace the logical connection between the countless forms of malady and the mal-environment under the influence of which they are severally produced. Nor would it be possible to do so if it were. That task devolves upon you—upon us—as students and physicians, in every case of malady, apart from such as have a sporadic or ephemeral aetiology, to which we are called, or that comes within the range of our observation. It may be a procedure involved in difficulties to discover the origin of this case of mania, or that case of diabetes, this case of homicide, or that case of theft, when due to causes which antedate the development of the individual; but that should not deter us from taking cognizance of the fact that every such case has its legitimate antecedent, nor cause us to invert the relation of cause and sequence in dealing with it. Nor should it afford us an excuse to indulge in unfounded and delusive hopes of making cures—of restoring the normal activities of the disordered organism—by means and methods which do not include the restoration of the normal relations of such organism.

Herein is disclosed the relation which subsists between the biological sciences and medical science. Prof. Huxley and others insist upon the intimacy of this relation. "There can be no doubt," he says, "that the future of pathology and of therapeutics, and therefore of practical medicine, depends upon the extent to which those who occupy themselves with these subjects are trained in the methods and impregnated with the fundamental truths of biology." (Address before the International Medical Congress, London, 1881.) "Living matter," he observes, "is characterized by its innate tendency to exhibit a definite series of morphological and physiological phenomena, which constitute organization and life. Given a certain range of conditions, and these phenomena remain the same within narrow limits for each kind of living thing. * * Outside the range of these conditions, the normal course of the cycle of vital phenomena is disturbed; abnormal structure makes its appearance, or the proper character and mutual adjustment of the functions cease to be preserved." (*Ibid.*) And again, to the same purpose, the author observes: "The search for the explanation of diseased states in modified cell-life, the discovery of the important part played by parasitic organisms in the aetiology of disease, the elucidation of the action of medicaments by the methods and the data of experimental physiology, appear to me to be the greatest steps which have ever been made toward the establishment of medicine on a scientific basis." (*Ibid.*)

If we accept this view of the aetiology of the woes of mankind, a view legitimately founded on scientific data, and which is accepted by scientific men, both lay and medical, we shall be in a position to appreciate to some extent the magnitude of the error and misconception in which the profession of medicine has floundered, like a magnificent ship on a boundless sea without a helmsman, and how far it still is from its true bearings. The doctrine is far-reaching in its consequences on all

questions involving the welfare of man and the order and stability of society. It embraces problems of mind as well as of body, of sanity and insanity, and disturbs all our notions which are of the nature of "fixed ideas," of the nature of evil, as well as of the nature of malady, confusing the two, in fact, as abnormal phenomena having a common aetiological and morphological origin. Under the guidance of this doctrine we shall have to modify our views of crime and of the moral and legal status of the criminal; revise our medical jurisprudence and the new code of criminal procedure; and enlarge and liberalize our ideas of moral responsibility, which has been saddled upon the individual by the leaders of public opinion—who, it must be confessed, are purblind leaders of the blind.

The scientific doctrine of morbid causes and sequences is important to us as physicians, because it imposes upon us rational ideas of the nature and origin of malady, and enlarges our conceptions of our duty to the sick. This is as true of the new school as it is of the old. It is an error to suppose, as many of us complacently do, that new school therapeutics has reached the acme of perfection. It has taken only the first step in that direction. We do not mean to imply that this doctrine upsets the law of *similia* as formulated by the illustrious Hahnemann; or the old maxims of medical diagnosis and procedure as established, or at least practiced, by Hippocrates; or that it upsets any principle or procedure in therapeutics which has been established by the concurrent experience of the profession. But we do mean to say that its acceptance would rationalize the practice of physic—that is to say, would place our therapeutics on a scientific basis. The old school physician under the light of this doctrine would no longer combat nature in the sick room with ill-timed narcotics and drastic boluses; the new school physician would cease to offend the rational sense of men of science with inane attempts to perform miracles with single molecules of drugs, or with dilutions of them so attenuated that no trace of molecules can be found in them. It should be borne in mind that it is as irrational to attempt to cure a malady by inappropriate means as it is to seek to square the circle, to attempt to lift one's self by the seat of one's breeches, or to seek to discover perpetual motion. The time will come when a man will be justly adjudged a lunatic who shall seriously attempt to do any of these things.

The time is already come, it seems to us, when we should use more discrimination in the use of drug-remedies. We do not refer to the finding of the true *similimum*, or the true *contrarium*—though our discrimination in these respects could be improved upon—but to the use of drug-remedies of any kind in any form. We have fallen into the vicious habit of adjusting, or trying to adjust, medicaments to every complaint that is made to us. The patient is worn out with much watching: give *coffea*; she is oppressed with grief: give *ignatia*; she has fallen down stairs: give *arnica*; one has a boil on the end of the nose: that calls for *sulphur* or *silicea*; or a sty on the eyelid: *pulsatilla* is the remedy. Then, for malaria and torpid liver, *quinine* and *calomel* are the standard drugs. So closely and habitually do we associate a malady with a medicament that we never see or hear of one without instantly thinking of the other. We were cognizant on one occasion of an attempt to resuscitate a still-born child with a few pellets of *tartar emetic* placed on its tongue, *à la Jahr*! This act of folly was perpetrated by a new school man; but it is well paralleled by an old school man of our acquaintance, who, being called to a serious case of epistaxis, prescribed a drastic purgative! It is time for us to recognize the extreme puerility of such procedures; that there are sick persons whose condition of brain and body is such as to contra-indicate drugs—conditions in which it is an insult to nature and common sense to offer the lethean draught. We meet these cases, go where we may, on every hand. We visit them in their homes and in their haunts. They

come to our offices, men and women and children, living, or trying to live, in an abnormal habitat or environment. They come to us, some in need of bread, some dying for the need of sunlight and pure air, some worn out with the cares of life—with the unequal struggle to live—some suffering from the specific effects of unwholesome trades and labors, and we turn them off with medicine, and insult them with a promise! Here is a young lady who is the chief support of an invalid mother. Her case is not an hypothetical one. She runs a type-writer fourteen hours a day for wages barely sufficient to provide food and shelter for herself and mother. She has an exhausting leucorrhœa, and complains bitterly of a weak back. You all know her well. You have vainly treated her weakness for months with every conceivable device except the right one, and pronounced her incurable at last, as you should have done at first—as you would have done at first, had you not have known that some covetous pretender—some diplomaed quack—would take her in hand if you did not. Is her case curable by any agent in our pharmacopœia? If so, is there not danger that her last state would be worse than the first—that some other and worse form of malady would supervene under the conditions in which she is compelled to live?

Let us cite another illustrative case—also from life. It is that of a woman who exhibits every symptom of tubercular phthisis. You know her well, or her prototype. She, too, is compelled to support herself at a disadvantage, toiling in a hot, over-crowded, ill-ventilated office, poring over dusty accounts from morning until night. She has a hacking cough; is thin and cachectic, and has been growing visibly worse from month to month during a year. All this time she has been under the observation of the profession, various medical men of both schools. She has been examined and re-examined, and has taken elegant formulas from elegant "quacks," as well as all the best approved nostrums and popular remedies for such cases so freely advertised in the medical press and distinguishedly endorsed, all to no purpose. At last, she retires from her position, too weak to fill it, and goes home to the country to—die? No, to live. Every symptom of the ravaging bacillus disappears. Her red cheeks return. She is a sound woman in three months. Was hers a case for drug-remedies, think you? Was it a scientific procedure under any system of therapeutics to prescribe drugs for her? We pronounce it quackery under the guise of a license. The attempt to cure her thus envired was as absurd as it would be to attempt to revive an amphibious creature suffering from asphyxia without restoring it to its native element, or to resuscitate a drowning man before taking him from the water. The attempt to relieve asphyxia in an atmosphere of carbonic acid gas with medicaments, would be no less futile nor more quackish, than the attempt to cure certain classes of diseases which prevail among us by the same means. Do we make a too free use of the word "quack" in this connection? We pronounce every doctor a quack who makes a secret of his agencies and takes advantage of credulity to enhance his power and profit.

Let us take another case, also the type of a class: Mrs. A. has been a sufferer for years with neuralgia. She informs us that she believes she has taken every drug of a certain class—nervine and narcotic—in the pharmacopœia, with only temporary relief. She has been under my care—and yours, and we have each exhausted our resources and our methods to no purpose, except a temporary one. She is said to have malaria—and what an amount of ignorance is concealed under that name—she is sallow; the tongue is coated, and the taste vitiated. The urine shows excess of the urates. She lives in a so-called malarious district, and has, therefore, a malarious environment.

Let us then assume that the neuralgia is caused by a malarious environment. What is the scientific method of curing it? Finding and administering the *simillimum*? Or prescribing antipyretics conformably to the

old method? We say no, on *à priori* grounds; we say no, on grounds of experience also; something more radical than medicaments is required to answer the demands of science in such a case. It is a type of a class of cases for which we are all prescribing, and successfully prescribing, both from a professional and a pecuniary point of view, but which return to us again and again, in the same general constitutional condition as at first. It is perfectly obvious that the action of the *simillimum* is such as to control or suppress the cry of the organism suffering from a morbid cause, but that it does not by any means remove such cause. From a scientific point of view, it is well-nigh idiotic to try to remove the cause of the pain by such means. The pain is not the disease; rather is it the evidence of an abnormal condition of some kind, due, as we have said, to faults of environment, which must be remedied ere the malady can be relieved in a manner satisfactory to the critical judgment, or the demands of a scientific method.

A scientific method in therapeutics pre-supposes a perfected knowledge of morbid causes as well as a perfected knowledge of the specific influence of drugs. It is indispensable that we possess the ability to discriminate between the right remedy and the wrong remedy; the proper use of the right remedy and the improper use of it; the cases in which drug remedies are applicable, and those in which they are inapplicable. We cannot undertake to indicate in this place the class of cases to which medicaments are secondary to sanitation; but we make bold to say that such diseases as depend on, or owe their origin to, faults of environment are not curable in any proper sense, by any method of therapeutics, which does not comprehend the correction of such faults of environment. To do this is the larger duty of the profession.

THE PRINCIPLE INVOLVED IN THE ETHICAL CONTROVERSY.*

BY JOHN C. MINOR, M.D.

The old saying that a President's address should advance no serious opinions and provoke no criticism can hardly apply to a subject so controverted as the one I have selected, and if, in following the example of my honored predecessor in office, I should advance opinions and provoke criticism, I shall be content if the opinions are in accord with yours, and shall plead the force of habit if I let the criticism take care of itself.

I wish to call your attention in the outset to the most prominent characteristic of the ethical controversy—one that gives it a singular aspect as compared with other controversies. I allude to the absence of any stated and definite principle upon which the issue rests. There is no lack of opinions as to the merits of the question when the question is defined as a legal one, its professional aspect draws out an equal variety of opinion, and every participant in this widespread discussion that now divides the medical world has given the most emphatic utterances to his views. And yet, with all this emphasis of conviction and in the presence of the most earnest arguments on both sides, it is no sign of a want of appreciation or of deficient intelligence if we ask, what question is before the profession? What principle is at stake? We know that the old code of ethics is assailed and defended; that the question of consultations with homœopathic physicians is a prominent feature in the controversy; that one party supports the new code permitting such consultations, and is known as a liberal party; that the other party supports the old code, forbidding such consultations, and is not known as a liberal party. So much is evident, but, after all, it seems hardly possible that so great a controversy could arise and divide the medical profession on a mere question of consultations unless this question fairly

*Part of the President's Address before the New York Medical-Chirurgical Society, November 13, 1883.

represented some distinct principle that was involved, and whose final settlement was necessary in order to preserve the integrity of the profession.

To those who look upon this contest as more than a mere ripple of opinion disturbing the placid surface of professional thought, who regard the controversy as one that affects the character and interests of the profession in its most vital part, and for whom the movement contains a reflection of past issues and a promise of future development—to these, the present agitation marks a period of *evolution* in medical history, while their opponents regard it merely as a *revolution*. And we shall acquire a more intelligent appreciation of the subject if we keep distinctly in mind the radical difference between an evolution and a revolution, for the former carries with it the idea of progressive development, while the latter involves the idea of change only. A movement based solely on a dissatisfaction with present circumstances, guided by no higher purpose than that provoked by a destructive criticism of existing affairs, is purely revolutionary, and may lead to a better or worse condition as chance may direct. If the movement, on the contrary, is founded on the intelligent recognition of certain principles whose operation promotes normal development, and whose action is obstructed by conditions that prevent their application, then the process of removing these obstructions is not revolutionary in character, but is part of an evolution that necessitates the destruction of whatever has become obsolete or detrimental, not in a blind spirit of nihilism that would leave the future to chance, but for the purpose of substituting something better—something more in harmony with present needs and future demands.

From one point of view the liberal movement in favor of the new code may be considered merely as a revolution. This view has found expression in a demand for a new code of ethics in order that consultations may be held with homœopathic physicians without incurring the penalty of professional ostracism, and this demand is supported by the argument that the humane instincts of these liberal gentlemen compel them to rescue the lives of those in peril from homœopathic treatment, because the law of humanity is a higher law than the code.

This position is open to two objections. First, it is assumed that a great demand exists for the services of these gentlemen as the advisers of homœopathic physicians. But no such demand exists, nor do homœopathic physicians seem to be aware of the fact that a pressing necessity has so suddenly arisen for the services of regular physicians among their patients, and it is a significant feature of this controversy, in which the question of consultations with homœopaths forms so prominent a factor, that homœopaths themselves have offered no comments and have taken no other part than that of disinterested spectators. The second objection lies in the use of the humanitarian argument, for, as applied to homœopathy, it not only places an unproved hypothesis in the place of facts, but in its reflection upon the professional ability and personal character of homœopathic physicians it is hardly in consonance with the idea that they can be very enthusiastic in their demand for professional association with those whose humanity so far exceeds their courtesy.

Viewed from this standpoint, the present controversy dwindles to the insignificant proportions of a quarrel over a demand that has no existence, it involves nothing more liberal than a name, and nothing more radical than a change in tactics. Its expressed relation to homœopathy lies in the idea that it can be more effectually smothered by an excess of kindness than by open warfare. This is a change of forms but not of principles—it is revolution only.

I admit this to be the worst possible view that can be taken of the controversy; that it misrepresents the merits of the question and the motives of those who have been instrumental in bringing it to an issue; but it

has found such facile expression before the profession and the public, that it provokes more notice perhaps than it deserves. I think we can well afford to turn aside from the personal acrimony of professional controversy and base the discussion on the actual merits of measures rather than the relative merits of men, and I ask you to turn with me to a higher view, to contemplate a principle and its application, to measure the controversy by this standard and to study the movement as an evolution in the profession. The principle may be stated as follows: *Freedom of thought and action are professional rights that belong to every properly qualified physician.* And first, as to the principle itself; we must appreciate that liberty is not license, that the freedom of which we speak is not the irresponsible action of a lunatic nor the reckless denial of professional obligations. On the contrary, the principle, as stated, recognizes a certain standard of qualification as necessary for the freedom of thought and action that are the professional rights of physicians. The freedom of thought depends on their ability to think, and the freedom of action depends on their competency to act; the exercise of these privileges, therefore, is controlled by an educational provision, the proper qualification thus standing at the very threshold of the profession as a barrier against ignorance and incompetence, a guarantee that none shall enter it but those who are qualified to assume its responsibilities and exercise its privileges.

This principle is so radically opposed to the policy of the old code of ethics that it is impossible that both should be right. If the principle is correct in its conformity to the spirit of the laws that create and sustain the profession, then the old code may be condemned as contrary to law. If the principle reflects the true professional spirit by maintaining the professional right of physicians to the exercise of impartial judgment, to the reality of a liberal profession rather than the mere name of it, then the old code must be condemned as unprofessional.

In its conformity to law, the principle recognizes an educational qualification as the foundation of professional privilege. The profession exists as a factor in every civilized state by virtue of the privileges conferred upon it by law. These privileges are legally acquired by the fulfillment of certain educational conditions that the law establishes for the protection of the public, as well as the profession, against ignorant and incompetent physicians. The law assumes that whoever comes up to the standard, is qualified to practice and competent to enter upon the responsibilities that practice brings. It is strict in its definition of what shall constitute a legal qualification; its evident purpose is to insure the fulfillment of the conditions that it has established as necessary for admission to the profession; but the law imposes no creed upon physicians, for it is evident that if the physician is qualified and competent to enter the profession, he is qualified and competent to use his own judgment as to methods of practice. This is the very purpose for which he was educated, and it is because his profession requires him to exercise his judgment and individual opinion, because it is his professional duty as well as his professional privilege to be free in thought and action in these matters, that the law insists upon a special education as a necessary preliminary. Hence the law establishes no standard of medical orthodoxy and recognizes no such crime as medical heresy. There was but one time in the history of medicine when a different spirit prevailed. It was among the ancient Egyptians that the rules of treatment were so strictly enforced, that, if a physician departed from these rules, he lost his own life, even though he saved that of his patient. Such is not the spirit of our laws, for they establish the profession and sustain it as a liberal one. They recognize that whoever undertakes its responsibilities must exercise the freedom of thought and action that a responsibility necessitates, and they give no support by letter or implication to the spirit of the

old code in its practical assertion that competence, qualification, personal character and professional privileges are suddenly lost when a physician uses his individual judgment as to the merits of homeopathy or any other medical theory. The law stands in the same relation to the profession that the profession does to its ethics. The profession must conform to the spirit of the law as the ethics must conform to the spirit of the profession. To ignore this logical order of dependence is irrational and absurd, and it is precisely this ignoring of the rational order of things that is so manifest in the attempt to reduce the legal stature of the profession to the dimensions of its ethical rules, and in the attempt to force a liberal profession into the narrow limits of an illiberal code. It appears, then, that the principle of freedom of thought and action as professional rights of properly qualified physicians, is consistent with the laws that create and sustain the profession. Since it is in harmony with the letter and spirit of the law, it is evident that it is just as positively at variance with the letter and spirit of the old code of ethics, and hence we must conclude that the code does not conform to the laws which created the profession, and that the profession which created the code is compelled either to alter the code or to assume an attitude of hostility to the law by which alone it exists, and to the will of the people of which the law is but the expression.

In its relation to the aims and objects of the profession, the principle stands as the expression of a liberal spirit as a necessary characteristic of the profession. We have an ideal calling. It brings us into the most perfect sympathy with suffering humanity, because it is our work to use every resource of art and science to relieve that suffering. Contending with all the means at our disposal against disease and vice, ignorance and crime, we realize that our profession stands for everything that is clean, healthy, intelligent and humane, and there is nothing we more sincerely regret than the limitation of our resources and our inability to do more effective work. Not one of us can stand in the presence of disease, fast changing into death, without feeling that the resources of our profession are all too small. As each desperate case of illness brings us face to face with problems that are yet unsolved, not one of us but is thankful for the liberal spirit that has made what knowledge we have a possibility and a common heritage, and who would impose a restriction upon the freedom of thought and action that is necessary for future additions to our knowledge? Could anything be more unprofessional in spirit, more at variance with the aims and objects of our profession, than an attempt to limit or restrict the investigations and efforts of those who seek to give us more efficient methods of dealing with our common foe? We may not accept every new-fledged opinion as deserving of confidence. We may regard many theories as unsupported by evidence or unconfirmed by experience. It is our privilege to reject whatever seems to us absurd or untenable, but it is not within the province of our privileges to pursue with intolerance and professional ostracism those who, being equally qualified with ourselves, have differed from us in the estimate they have formed of these things. We may not assume that those who differ from us in belief or practice are either knaves or fools, unless it is shown that their qualifications for the profession are inferior to our own, and that the results of their practice are so much worse than ours as to be dangerous to the public or disgraceful to the profession.

The true professional spirit is one that unites conservatism with liberality. Condemning nothing unheard, accepting nothing unproved, it provides expressly by its liberal character for that large domain of things that are, and for a long time must be, *sub judice*. As on Mars Hill the Athenians of old, after defining their religious belief, so far as emblematic art could represent their theology, erected an altar to the Unknown God, so the true spirit of the profession, while holding to the

accumulated experience of the past with all its defects and uncertainties, still reaches out for the unknown and erects its altar to the Future in Science. And if we worship at that shrine, can there be any sincere devotion in thrusting away our neighbor? Can we assume the attitude of a medical pharisee, defend it by a code of ethics, and claim that we represent the liberal spirit of the profession? Is not this unlawful in its opposition to the policy of the state? Is it not unprofessional in its violation of the spirit of liberality? Is it not unwise in its adherence to the intolerance of the past as a guide to the uncertainties of the future?

We recognize the fact that medicine is far from being an exact science. It deals with so many topics, and each presents so many changing features, that we can never expect to unravel all its mysteries. But so far as exact science enters into our professional training, we accept and define the known from the problematical by standards of comparison that are established as true and accurate, and there is a regular and logical gradation of studies that leads from one subject to another until we reach the ultimate subject of the practice of medicine. So we base the study of physiology upon that of anatomy, because a knowledge of structure must precede a study of function. And because the investigation of morbid processes could not be pursued intelligently without a prior knowledge of normal structure and function, we recognize the necessity of placing anatomy and physiology in advance of pathology in the regular sequence of professional training. Thus one study serves as an introduction to the study that follows it, and each bears to its successor the relation of a standard for comparison—a measure of values. But when we come to the main object of all this professional study, the treatment of disease, this plain and logical sequence is practically ignored. If the same method of investigation obtained in determining the value of medical treatment, it would require in the outset a study of the course that diseases pursue when uninfluenced by any medical treatment. In other words, the natural history of each disease must be known and established as a standard of comparison before the actual value of any method of treatment can be determined. But no such standard of comparison exists, and hence we are unable to determine with any degree of accuracy the absolute value of contrasted methods of treatment, and even their relative values must remain unknown until we have marked out, with some degree of precision, the limits of that important factor, the unknown quantity in every medical problem, the *vis medicatrix nature*. Hence it comes that whatever may be the nature of our personal convictions, our very ignorance compels us to accept a liberal and tolerant spirit as a necessary characteristic of our profession. It requires but a few steps in the examination of any medical topic to pass from positive knowledge to pure hypothesis, and the profession has suffered less from the presence of conflicting theories than from the absence of a fearless honesty that dares to distinguish with perfect candor between the known and the unknown in medicine. Eliminate from the present controversy, and from all medical controversies, whatever is based on mere assumption, whatever rests on pure hypothesis, admit nothing that is not supported by something more logical than mental impressions, or what we term "our convictions," and a dead calm would instantly fall upon the angry surface of our profession. The traditions of the past are characterized by the fact that imagination supplied the absence of positive knowledge. To a lesser degree the same characteristic applies to the medical theories of to-day, and will have its influence on those that follow after us. But this at least we may hope for, that with the growth of more rational methods of thought and practice, there will be a corresponding development of sober, conservative and critical judgment, not influenced and directed by partisan motives, but animated by a sincere desire to distinguish the true from the false. This is not only

our hope for the future, but our present duty, and while we can appreciate how intimately its success is connected with a higher standard of medical education, and with more perfect laws of professional qualification, we confess our inability to understand how intolerance as a professional policy can act in any other way than as an obstruction to the calm investigation and impartial judgment that properly belong to professional matters.

Then if we find that the principle under consideration is a true expression of the liberal spirit of our calling, that it recognizes the defects of the past, the necessities of the present, and the demands of the future, as they affect the aims and objects of the medical profession, we must observe that it is impossible to admit the truth of this principle without condemning the policy of the old code of ethics as unprofessional.

Having thus outlined in a general way the principle at issue in the present conflict we may turn to the controversy itself.

We may assume that as in all battles there is a preliminary skirmish that serves to define the position of the opposing lines, so the present contest is useful, not in any relation that it bears to homœopathy, but as indicating the relation of the opposing parties to each other. And, as on the eve of battle, it is the privilege of veterans to recount the details of former wars, so we may be pardoned for recalling nearly a century of controversy in which the subject of homœopathy served to define the policy of the large majority of the profession in medical politics and ethics. During all that time there was an uncompromising war against homœopathy, and the old code of ethics was relied upon as the destructive agent that was to annihilate the medical heresy. Under its operation, to consult with a homœopath was to be driven in disgrace from every society, and to forfeit all professional standing and fellowship. To investigate homœopathy impartially, and to admit that it possessed any merits, was to incur the active hostility of every organization and to invite public abuse and insult. So bitter and intense was this feeling that it permitted no consideration of private character or professional standing to interfere with its action, but was adopted as a settled and inflexible rule in all cases.

It might have been easily foreseen that so destructive an agent as this old code would prove a very dangerous weapon to handle, for the only way by which it could reach homœopathy was over the individual rights and professional privileges of the members of a liberal profession. Like a Chinese gun, it kicked and reared, and shot both ways, and injured friends and foes alike. In order to use this code, the profession was obliged to take its stand fairly and squarely on a record of intolerance as a professional policy. It was a criminal blunder—for in matters of belief the only safe blows that can be given are those that are so deadly in their effect that no recovery is possible—so that failure was unpardonable. In its professional relation, the subversion of freedom of thought and action, the rights that belong to every qualified physician, was a crime that was certain in time to come to judgment. It drew a line of demarcation through the ranks of the profession; the allopath was on one side, the homœopath was on the other side, and the physician was nowhere.

That controversy is finished so far as the existence of homœopathy is concerned, for the policy failed to accomplish its purpose, and the heretical doctrine not only exists, but so far as organization, activity, professional development and public support count as evidence, it is impossible to ignore the fact that, with all its palpable faults, its position to-day is so strong as to defy any attack that can be made under the old code of ethics. Meantime the policy has not only failed to accomplish its purpose of annihilating homœopathy, it now threatens to annihilate those who have stood behind it. The time has come when this policy must be judged on its own merits, and not on those of homœopathy. There is no other issue than this before the profession.

Homœopathy is not on trial. It can come into the controversy as a witness only. The criminal to be judged is the old code of ethics, and its crime is intolerance.

I assume that you are sufficiently familiar with the arguments of those who have supported this policy, and I need only recall the special words of the old code that have served its purpose. "No one," says the code, "can be considered as a regular practitioner, or a fit associate in consultation, whose practice is based upon an exclusive dogma, to the rejection of the accumulated experience of the profession." This was aimed, of course, at homœopathy alone. That doctrine was expounded by Hahnemann as an exclusive dogma. It was a dogma of assertion and belief. It cannot be doubted that he asserted too much and believed too much, so that if we are to consider homœopathy as a medical heresy the error consisted substantially in an excess of faith, a ritualism in medicine, with all its mystic accessories. But there are other dogmas than those of assertion, and other heresies than excess of faith. At the other extreme is medical infidelity. Instead of being, like homœopathy, a dogma of assertion, it may be aptly termed a dogma of denial. Its creed, as formulated by Holmes, runs in the words: "I firmly believe that if the whole *Materia Medica*, as now used, could be sunk in the bottom of the sea, it would be all the better for mankind—and all the worse for the fishes."

If the policy of the old code can be defended as necessary, in order to support the dignity of the profession against the assault of Hahnemann and his followers, why should these stalwart supporters of professional dignity be silent when the attack is made by Oliver Wendell Holmes and those who agree with him in their estimate of old school therapeutics? Is it a more complete "rejection of the accumulated experience of the profession" to use it for the construction of an exclusive dogma in medicine, than to use it for fish bait?

The only claim that any code of ethics has to our consideration lies in its expression of the teachings of the profession, as applied to the manners and professional relations of physicians. It assumes to be more than a mere book on etiquette, for it claims to represent the spirit of the profession in its highest sense, and to reflect that spirit as a guiding light upon the road that the physician pursues in his professional life. And since the law is not for the righteous, but for sinners, we may take it for granted that if a physician is fully imbued with the spirit of his profession he would need no such guide. Those who think for themselves, and are capable of serious thought, would certainly be apt to look to the profession itself for inspiration and guidance rather than to view it through the medium of a code of ethics, even though this code professes to be the outward and visible sign of the inward and spiritual graces of the profession. And if the professional man really appreciates the nature and objects of his calling he cannot fail to see that there is a want of adaptation in the old code, that it does not conform in its utterances to the actual teachings of the profession, but that it misrepresents the profession.

It is beyond dispute that medicine existed before the code, that the profession antedates and creates its ethics, that the ethics must be adapted to the profession and not the profession to its ethics. A want of adaptation is a want of conformity to a necessary standard, and in the case of the ethical code it becomes a fault so serious as to be fatal to its authority, because it invalidates at once its representative character so far as it claims to be a professional guide.

A small suit of clothes is not adapted to a very large man, because it will not contain the man; he will run over somewhere. Not having been fitted to the man, it will be necessary either to reduce the man or enlarge the clothes before perfect adaptation can be secured. The clothes might fit a smaller man, and a boy might find room enough in them to grow. It is with creeds as it is with clothes. There are large and small ones. One

class of minds may find the full and liberal dimensions of a rational belief none too large, while another may consider the medical universe as bounded by the narrow confines of an exclusive dogma. But if we have to choose between extremes, an extremely liberal measure has this advantage—that it will embrace all classes and all sizes. One may then believe as much or as little as he chooses with perfect freedom, for it is one feature of large creeds that they never interfere with small beliefs. Now, it appears to be certain that the old code of ethics was a misfit, so far as the profession is concerned, and the attempt to reduce its noble character and liberal spirit to the narrow proportions of this ethical wardrobe was as inappropriate as it would be to represent Hercules in the inexpressible attire of a modern "dude." The profession is so grand in its proportions, so noble in its aspirations and so liberal in character that the man who enters it has every incentive to humanity, charity and wisdom. But it is one thing for the man to enter the profession, and it is quite another thing for the profession to enter the man. And since the codification of ethics is merely the human expression of its teachings, it follows that these teachings will be tinged by the medium through which they pass. If this medium is colored by prejudice, intolerance, partisanship, jealousy—human faults that are foreign to the profession and have nothing to do with its true purpose and character—we may expect as a matter of course that those who regard the light that filters through this medium as the true expression of professional sunlight are either color-blind or have never dared to look the sun in the face.

One more reference to this subject of the adaptation of the old code to the profession it assumes to represent. We may regard the profession as an organization whose members give their services for money, and thus earn their bread and butter. This is the feature of the calling that corresponds to a trade, and if this were all it would naturally be subject to the same laws and influences that obtain in all organized trade societies. The reciprocal relation of employers and employed, the relations of the workman to his society and to his fellows, are all controlled by regulations that are known as the laws of a trades-union. If a bricklayer, for instance, finds that he can double the amount of his work, or improve its quality by a departure from the old methods of bricklaying, the trades-union to which he belongs would interfere with the new departure from the established methods on the ground that it would tend to throw just so many men out of employment, to cheapen labor, and thus be a detriment to the bread winning efficiency of the bricklayers' trade. Every builder would want the new man and his method, while old-fashioned bricklayers would go hungry for want of work. Therefore the policy of the trades-union would be enforced. The man would be warned to desist from his innovation, and, if he refused, would suffer the usual penalties. Expelled from his trade society, avoided by his fellows, his method would be decried as absurd and unreliable, his character would be assailed and he would incur the punishment of being "boycotted." Is it unfair to say that this policy represents precisely the spirit of the old code of ethics? But if homœopathy has any relation to the controversy, it comes into the case at just this point as a witness to the fact, and I submit that a code of ethics whose spirit is so perfectly adapted to the aims and objects of a trades-union, cannot be in harmony with the aims and objects of the medical profession.

If the principle that I have advanced is correct, we may apply it to the old code of ethics as a standard of comparison, and if we thus test its conformity to the law, its adaptation to the profession or its agreement with the true spirit of our calling, it is impossible to draw any other conclusion than that in all these particulars the old code stands convicted of misrepresenting and degrading the profession.

Homœopathy should be entirely eliminated from the controversy, for it cannot be offered as an excuse for a

violation of ethics nor as an apology for abrogating the rights and privileges that belong to every qualified member of the profession. There is only one rational method of dealing with the old code, and that is to let it stand or fall on its own merits, and not on those of homœopathy.

The verdict of the profession has already been given and the old code has virtually ceased to exist. Candor compels us to regret our inability in this case to apply the old motto "*De mortuis nil nisi bonum.*" The old code did not die from inanition. It seems but yesterday that it was full of life and vigor; to-day its lifeless body is on the dissecting table, and we are holding a post-mortem examination of the remains. The cause of death was a very simple matter. It was not due to the evident lesions of the heart and brain, but was merely the result of its coming in sudden contact with a principle. That was all. Homœopathy was not accountable for the sudden collapse. It had something to do with the birth of the deceased, but was merely a spectator of the final catastrophe, and it is not improbable that those who claim homœopathy as an infallible law and follow it as an exclusive dogma will be found as chief mourners at the funeral.

CEREBRAL TUMORS.*

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The advances in regional pathology of brain disease—due to the many and continued comparative physiological experiments, a study of carefully recorded symptoms and the lessons drawn from post-mortem evidence—now enable the diagnostician more often to determine as to the existence, and in a limited sense the location and nature of adventitious growths of the brain. The subject is too vast to consider in detail at this time, but a review of its literature permits us to deduce some general facts.

1st. The cause which lead to abnormal products in the brain are the same as tend to the development of tumors in other parts of the body, modified by the location of the brain in a nearly closed resisting cavity and the differences arising therefrom.

Men are more subject to cerebral growths than women, the proportion being nearly two to one, which is explained in a large degree by the greater exposure of males to excitement and dissipation and to injuries to the skull, the latter being now admitted to often lead to the development of tumors; they are more common among inhabitants of the old world than the new, as are tumors in all parts of the body.

2d. The kind of tumors may be divided into those somewhat peculiar to the brain itself, and those similar to the neoplasms of other organs.

The former consist in the main of an undue increase (hyperplasia, etc.) at local points of the neuroglia, of the gray substance or of the pigment, and are all usually of slow growth. The latter are chiefly syphilitic, tubercular, cancerous, parasitic, sarcomatous or aneurismal in character; of these the tubercular, syphilitic and parasitic are nearly always secondary deposits; on the other hand, cancer is very often of primary origin and rapid in its invasion. Osseous formations in the brain are not infrequent, while mucous and fatty tumors are rare, except as degenerations of other growths.

3d. The tolerance of some parts of the central nervous system to adventitious growths is abundantly proven; post-mortem examinations have revealed the presence of cerebral tumors of considerable size, which had produced little or no disturbance during life. Small and slow growing tumors analogous to brain tissue may exist a long time without any but transitory symptoms. In this connection it is interesting to note that Nothnagel and other experimentalists have destroyed small sections of the brain tissue of animals with but temporary (though marked) motor disturbances, normal nervous

* Read before the N. Y. Clinical Club, Oct. 19.

conduction being soon re-established through other tracts. Again, the differences of individuality modify effects, the brains of some persons react from irritation to a much less degree than do others; but the greater tolerance is to be accounted for in the anatomical and physiological arrangement of the nervous system, and it is only when the tumor is located in the lobes away from the centres at the base, and not involving the ganglia in the expanded convolutions, that the most accommodation is experienced.

Lastly, the rapid enlargement of tumors, either in tissue or determinations of blood, exert a marked influence on the symptoms, and it is to be remembered that distant parts of the brain may be disturbed by pressure from a comparatively sudden increase of solid or liquid within the skull, which might not be experienced by a slow advance of intracranial pressure; it is, however, to the continued pressure within the head forcing the movable fluids of the brain forward between the sheaths of the optic nerve that we owe the most important symptom of these growths, viz., an optic neuritis with "ophthalmoscopic appearances almost constantly present at an early stage."

4th. The psychical symptoms, although varying greatly in constancy and degree, are very similar in kind. The response to mental stimuli is retarded or soon exhausted; the disposition becomes irritable and depressed, and, with large or rapidly growing tumors especially, the intellect suffers from defects of memory and inability to fix impressions. Sometimes there is a disappearance of "certain fields of thought," or again there is no dearth of ideas, but the right words to express them are wanting—language-conduction is interfered with. This condition may be partial and brief, or go on to complete aphasia. So also in advanced cases the mental functions become more limited, and imbecility may be gradually established.

Illusions and hallucinations are rare, and positive delusions still more uncommon. The special senses may suffer alteration or extinction from tumors involving their central origin or lines of conduction; the sense of vision, however, is impaired by indirect pressure, as before stated, and dimness of sight is often accompanied with subjective sensations of light, a dilated and sluggish pupil, and later more marked amblyopia or amaurosis. If the optic tract and chiasma become implicated, contractions in the field of vision may be observed and bilateral hemiopia develop.

Monolateral hyperæsthesia and anesthesia are common symptoms, and are often preceded by numbness, formication or wandering pains. With tumors confined to the cerebellum the usual disturbances of sensation are not present, but there is greater derangement of the so-called "muscular sense" and a tendency to hyperæsthesia in the sphere of the sexual appetite, though tumors in general are apt to abolish the sexual desire.

Vertigo and headache are early symptoms in cerebral tumors; the pain in the head varies widely in character and intensity in different cases; it is generally remittent or intermittent in type; frequently localized at a definite point during an exacerbation, and the paroxysms are more agonizing as the tumor is nearer the meninges.

Turning to the disturbances of motion, we find cramps and epileptoid attacks common, also hemiplegia of slow progress, with sudden increase of the latter after an apopleptoid or epileptoid attack. Occasionally alternating paralysis is present, and then has an important relation to the location of the tumor. Paraplegia and paralysis of the bladder are seldom present, except in the last stages, or when the growth primarily involves both hemispheres. When the cerebral nerves are encroached upon special groups of muscles are weakened or paralyzed; defects of co-ordination (more common with cerebellar tumors) cause peculiarities of motion, and the so-called "compelled movements, forward, backward, in a circle and rotary movements."

Muscular contractures are rare in cases of uncomplicated tumors.

5th. Among general symptoms, vomiting is of frequent occurrence; the bowels are usually constipated in the final stage, but up to this period of the disease, the process of nutrition may be but little disturbed otherwise, in benign growths, or even in some cases of carcinomata.

Irregularities of circulation are only found when the pneumogastric is affected, directly or indirectly, by irritation in the earlier stages reducing the rapidity of the pulse, and in the final stage increase in the rapidity of the pulse from nervous compression or degeneration.

Variations of temperature from the normal are not the rule, except in the incipient stages of tubercular tumors, and as a terminal symptom, when elevations of bodily heat are significant.

Obernier* has arranged special groups of symptoms characterizing cerebral tumors under three heads: I.—According to their course; II.—According to the nature of the neoplasm, and III.—According to their situation.

Without following his classification to great lengths, we may notice those under the first division as important in making a general diagnosis, and more briefly the other classes as aids to a differential one.

Symptoms according to the course of tumors. 1st. *Initial symptoms which do not admit of a certain diagnosis.* Uneasiness, ill humor and irritability, forgetfulness, want of energy, subjective sensations of light, momentary diplopia, diminution of vision, commencing choked disc, tinnitus aurium. Headache—continuous, intermittent or remittent—one-sided numbness, formication and darting pains, weariness from slight provocation, vertigo, faintings, vomiting and epileptoid attacks.

2d. With increase of the initial symptoms are others peculiar to the developed cerebral tumors, and which make good the diagnosis. Depression of spirits, sometimes complete melancholy, maniacal attacks, mental derangement, aphasia, sleepiness, diminution of mental activity, amblyopia and amaurosis, with the appearance of choked disc and neuro-retinitis, unequal pupils, strabismus, violent localized headache, neuralgia, monolateral paralysis and anesthesia of varying degree, gradually increasing, jerking, quiverings, cramps of the affected groups of muscles developing sometimes into epileptoid attacks.

3d. *Terminal symptoms.* Imbecility, total want of energy, sopor and comatose conditions, gradual extinguishing of mental activity, widespread anesthesia, hesitating speech, paraplegia, incontinence of urine and feces, or else retention, increased temperature, meningeal inflammations, apoplexy.

Under the head of symptoms according to the nature of the neoplasm, it may be said that these only lead to probable conclusions. Glioma and kindred varieties more often follow injury to the skull, are of slow progress, and hence have a relatively long duration of illness with intercurrent apoplexies, but without much if any impairment in the nutrition of patient. Tubercular tumors are usually secondary to other deposits, occur more often in childhood and in the cerebellum, and may follow acute febrile diseases; have intercurrent paroxysms of fever, with increase of cerebral symptoms, absence of apoplexies.

With carcinoma there is usually rapid progress of symptoms, the growth is apt to be of solitary (cerebral) occurrence, with sometimes cancerous formations in other organs, which are more often secondary in origin. (Rosenthal.)†

Proofs of infection, furnished by the history, etc., together with improvement under specific treatment, may indicate syphilitic tumors.

* Ziemssen, vol. xii., p. 262. † Wood's Library, 1879.

The group of symptoms according to situation, while valuable as records of observation and analysis, little precise information can be gained by a study of them. Even were the functions of the various parts of the brain well known, the intimate connection of near and distant parts with each other and many conditions of disease, would tend to complicate symptoms. Hence, it is only when well-marked disturbances occur in the sensory, motor and psychical spheres, which can be understood (in a measure at least) through our knowledge of the anatomy and physiology of the central nervous system, together with the general symptoms of tumor, that the location of a cerebral neoplasm can be determined. For the purpose of illustration later, I copy those symptoms named by Obernier as indicating the posterior lobe: "diffused headache, except the disturbance of vision, deterioration of the senses is rare, no considerable disturbance of motion, vertigo and convulsions common (Nothnagel's convulsive centre in rabbits)." Without repeating here any points of resemblance, it may be stated that uræmia and hysteria might be for a time mistaken for cerebral tumor, but the principal conditions to differentiate are apoplexy, softening and cerebral abscess.

The prognosis is of course unfavorable, except in rare instances of syphilitic origin, but life may be prolonged for years and decided remission of grave symptoms occur at intervals of longer or shorter duration, either from treatment or from the nature and situation of the disease. So wide is the range of time that a tumor may exist that no one can determine its age. Lebert,* however, has reckoned the average length of growth of cerebral carcinoma to be one and a half years, the longest five years, and the shortest three months.

Treatment seldom accomplishes more than palliation. The iodide of potash in large doses has earned some repute as a curative remedy (either alone or combined with bichloride of mercury†) in exceptional cases, probably due to its influence on syphilitic products.

CASE.—C. H. M., male, age 32, unmarried, physician. Family and personal history good, and free from any known specific taint. He had always enjoyed vigorous health, except for occasional short attacks of malarial fever and headache while residing in a miasmatic district previous to the summer of 1880. These attacks yielded at the time to treatment with full doses of quinine, and, with change of residence, ceased to recur altogether.

In August, 1882, while at the seashore, somewhat similar paroxysms of supposed malarial origin occurred; they began without any well-defined chill or marked febrile disturbance (temperature not taken), but were accompanied with severe headache and unusual prostration. The attacks recurred every week during one of the days he spent at the shore, but not at all during the part of each week he remained in the city. This became so apparent that he early omitted his weekly trip to the seacoast (believing the place malarious), and remained in town altogether, with comparative freedom from fever and only infrequent and less severe headaches. I did not see him while suffering from any of these attacks until I returned home in September, when the cephalalgia was beginning to assume an aggravated form. At this time the pain in head more often began morning or evening; it was diffuse in character and gradually grew worse, with coincident slowing of pulse and coldness of skin, but without chill or variation from normal temperature. If unrelieved the headache reached its maximum in about four hours and gradually diminished. Two weeks later the pain at its greatest intensity assumed a neuralgic type and centered at one spot about one-half inch in diameter near the right temporo-frontal junction, and continued to have this

feature for some weeks thereafter, sometimes intermitting for a week, or again returning every two or three days. Other symptoms noticed at this period were transitory mental depression, irritability, weariness from exertion, frequency of urination with increase of quantity, and the urine was pale in color. Examination of urine showed specific gravity of 1.012, and no abnormal condition save the presence of oxalate of lime; re-examination later failed to reveal anything abnormal. He stated also at this time that he had not felt any normal sexual sensations for some weeks.

Early in October (while in the country, and after one of his best days), about one-half hour from the time he retired to bed, a heavy fall was heard and he was soon after found on the floor of his room unconscious, with a flushed face, stertorous respiration and a full bounding pulse. Sixteen ounces of blood was immediately taken from his arm, and as soon as he was able to swallow he was given sixty grains of bromide of potash in divided doses; he regained his speech in about two hours, and at once complained of pain in his head. At the end of a week, not having experienced any ill effects from the apoplectic attack, otherwise than temporary loss of strength, he returned to New York. He could not recall any circumstances of the night of his illness after he retired, and he appeared and looked better, except for some contusions on his face, nose and temple resulting from his fall. Eight days later, headache again returned, having the same general character as former ones. Now, however, the intense pain centered in the left temporal region, directly under one of the contusions he had received, instead of on the right side. These intermittent headaches occurred every two to five days, varying in intensity, but with all the general symptoms before detailed gaining in prominence.

The first part of November he passed in the country, without any abatement of symptoms, and on his return to town he was evidently weaker every way. He complained at times of numbness in right hand, and in walking he swayed slightly to the right. A test of muscular strength showed loss of power in the grasp of the right hand and extension of right leg of about one-fourth as compared with left side. He was unable to read only for a few minutes at a time without increasing dimness of sight; by letter test V.R.E. was $\frac{2}{3}$ and V.L.E. $\frac{3}{4}$ —falling fractionally lower with prolonged effort; lateral vision was normal. The ophthalmoscope revealed, further, congestion and prominence of the optic disc. He also complained of flashes of bright light before his eyes, and once only of double vision.

About November 15 (after passing an exceptionally good day), he roused from a quiet sleep near midnight, threw a pillow at his nurse, and getting out of bed acted in a violent manner about his room, talking incoherently most of the time; he would occasionally become exhausted and sink upon the bed exclaiming: "Oh, why! why!" This attack of active mania lasted six hours, during which time he persisted in removing his night clothes and remaining entirely nude, at times threatening harm to all who opposed him, and again permitting himself to be led to the bed, only to rise again in a few moments.

From a long sleep which followed the mania, he awoke with a clear mind, and with the only recollection that he had been in some indefinite trouble. No like mental disturbance occurred at any other period of his illness, but transitory spells of incoherency or nearly complete aphasia occurred at varying intervals thereafter. In many of these there was no absence of ideas, but defect in conduction, of which he was fully conscious himself; less often slight delirium was present, and a condition of transitory semi-unconsciousness, weariness and depression of spirits followed any exertion. Each week into December witnessed an increase in his earlier symptoms. The headaches became agonizing in character, and the position in bed while they were present became habitual, lying upon the side with

* Vide Ziemssen's Cyclopedia, vol. XII.

† Hammond "Diseases of the Nervous System."

his head flexed upon the chest and one or both hands clasping the temples and forehead. The pulse during attacks of pain would fall to below 40, and seldom rallied with relief of pain above 55. The eyes gave ophthalmoscopic appearance of choked disc and double optic neuritis. Lateral rotation in walking increased to an extent that it became difficult for him to pass unaided through a door-way without striking his head or shoulder against the casing, and the right arm lost strength and precision so he could neither write or feed himself. Jerkings and quiverings of the affected muscles occurred. Finally the last week in December right hemiplegia was so far advanced that he was unable to rise from or move in bed without assistance, and change of position often led to fainting and vomiting. It seemed at this time, for a period of ten days, that all his vital functions were being rapidly extinguished, life was at so low an ebb. Then periods of improvement began and relapses were less frequent or severe. The paresis of motion rapidly lessened, so that the last part of January he was able to walk better than for weeks previous to the time of taking to his bed. His mind was more active and he appeared to take as much interest as ever in matters which concerned him; it was only in the domain of memory that any mental defect could be found, if we except the inability to long concentrate his thoughts in one direction.

One attack of prolonged syncope occurred at this date. While he was sitting quietly, his face became suddenly pale, respiration very irregular, and moaning, pulse feeble and unsteady, and his skin cold and moist; at times he was semi-comatose and ground his teeth together, but when roused said he was in no pain, only felt very weak. This condition persisted for three hours in spite of active stimulation, and then passed completely away, leaving no untoward symptoms or effects behind, other than a sense of weakness and stiffness in the muscles of the jaws for a few hours the next day, and slight twitching in the right arm and leg two days later.

By February he was about the house; went to the dining room to his meals; saw some of his intimate friends and talked with his accustomed ease and cheerfulness. For nearly two succeeding weeks he was free from paroxysms of headache and recovered almost normal motion of right side, though still wanting in precision of movement of arm sufficient to write or feed himself. But with all this improvement, sense of vision diminished. The ophthalmoscope showed advancing retino-neuritis and bulging of the optic disc. Failure of memory regarding more recent events was also more apparent. The last week in February severe cephalalgia once more returned and continued for several days, with but slight remissions. The pulse and respiration, which had previously become normal, fell to 45 and 10 respectively. Stupor alternated with coma, and on the third day complete left hemiplegia and paralysis of the bladder followed; the eyebrows were corrugated, and on the next day tonic contraction of the flexors of left arm were observed. In twenty-four hours the arm was firmly flexed on the chest, and the head and eyes rigidly turned to the right, with occasional spasmodic twitching of the eyes in that direction. The pupils were dilated, but responded feebly to light. Intermitting stupor continued for some days; when conscious, he replied to simple questions intelligently, but with hesitating and difficult articulation, especially of labial sounds. Loss of sensation, which was general over the left side, returned with restored consciousness, but sense of vision was found entirely abolished. The contracted muscles of arm and neck became very rigid and tender, but later those of the neck relaxed, and ability to turn the head and eyes from side to side gradually returned. All the other symptoms in a measure abated except those relating to the bladder and rectum; the latter became dilated enormously from repeated impaction of feces. Polyphagia was now added to other and former symptoms, and large quantities of food were

taken with apparent relish, notwithstanding the difficulties of mastication and deglutition. Illusions of sense of touch of right hand occurred. On several occasions exhibition of the so-called "muscular sense" (supposed to have its seat in the cerebellum) contrasted strongly with his helpless state. Periods of depression were succeeded by longer periods of hopefulness, and his mind, though dull and inactive, was clear in a limited range, when called upon to respond to a question. Through March the changes noted were absence of headache, and in their place spells of prolonged restlessness, during which he would keep up incessant movement with right arm, reaching forward as if trying to grasp something floating in the air, and with the right leg drawing the foot up and down in bed. At these times the pulse was rapid, often reaching 130, falling again, when he slept, to 70. Elevations of temperature occurred for the first time, varying from normal to 102° F. Transitory delusions regarding time and place of events were common. April 2, he had a single right-sided epileptic convulsion. He recovered consciousness in an hour, and said his head ached. Following this, he had partial deafness of right side, anesthesia of left side of face and less complete loss of sensation over rest of body; greatly increased mental dullness and hesitating speech. Ten days later there was pretty constant sopor, with intervals of mental confusion, and very difficult and indistinct articulation. April 16, signs of renewed cerebral hemorrhage appeared; muscular contractures followed paralysis; the right arm was extended and firmly pressed to the side, and the head turned to the left. The pupils were dilated unevenly. The pulse was rapid (140) and irregular, and the temperature high. Interrupted breathing was soon changed to Cheyne-Stokes' respiration. Profound coma supervened, ending, forty-eight hours later, in failure of respiration, and death.

Autopsy, 36 hours after death, by Dr. W. Storm White. The following is his description of the same: April 19, 1883.—*Scalp*: Adherent over the occiput, being bound to the periosteum by firm fibrous tissue.

Skull: Outer table normal, inner table thick, and very little medullary substance in certain localities, viz., just below the frontal eminences and in the parietal regions of both sides. No other peculiarities.

Dura mater: Somewhat thick; non-adherent to the skull; slightly adherent to the pia mater along the anterior lateral border of the right anterior lobe, and also corresponding to the position of the clot, spoken of below, but the adhesions were easily broken up. In the anterior third of the falx magna cerebri, near its inferior border, was found a calcareous plate measuring $1\frac{1}{4} \times \frac{5}{8} \times \frac{1}{4}$ inches and surrounded on all sides by the dense fibrous tissue of the falx, thus forming a capsule. The longitudinal sinus had grown together anteriorly and posteriorly and presented merely the characteristics of a vascular membrane. The dura otherwise normal.

Arachnoid and pia mater: The arachnoid normal, except at the locality of the clot, as was the pia, except at the points where it covered the tumor on the left posterior lobe and over the clot.

Cerebrum: The whole anterior lobe of the right hemisphere gave fluctuation waves on succussion, showing presence of fluid in its interior. Anterior to the sulci centralis and inferior frontalis, converging the anterior central and a portion of the middle frontal convolutions, was a large bluish-black spot looking like an ecchymosis. On removing the pia mater, which was here adherent, a large blood clot was found filling an opening, through which the index finger could easily be passed down into the lateral ventricle. Surrounding this fistulous opening, the cerebral substance was semi-fluid, both in the gray and white substances and extending nearly half an inch in all directions.

Tumor: In the superior portion of the posterior lobe (left hemisphere) was found, imbedded in the cerebral substance, a tumor of about the size and nearly the

shape of a pullet's egg. The pia mater was here adherent and could not be removed, but the whole mass came away very easily on cutting the pia around the edges of the tumor. It was surrounded laterally and inferiorly by a wide zone of softened brain substance in which no distinction could be made between the gray and white matter. This softened tissue extended down through the whole thickness of the posterior lobe to the gray substance of its inferior portion. There was no pus or extravasation of blood.

On section, the tumor was found to be lobulated, the lobules being separated by very vascular connected tissue. The tissue of the tumor itself had a peculiar semi-transparent appearance and might be characteristic of either malignant round-celled sarcoma or carcinoma. The microscopic examination proved it to be the latter—*round-celled carcinoma*. The pia mater covering the tumor was infiltrated here and there by nests of epithelial cells. The centre of each lobule was undergoing fatty degeneration, and in some of them was quite soft and broken down. That the tumor did not originate in the pia was proven by the fact that the latter was intact (with the exception of the slight infiltration above mentioned). It therefore first made its appearance in the cerebral substance.

(For the exact locations of both the tumor and the fistulous opening, see the sketch on the last page of this report.)

Lateral ventricles, left: Very slight serous effusion, hardly more than normal. The choroid-plexus greatly congested.

Right: Distended almost beyond recognition by a large quantity of fluid blood and clots. Softening had taken place through the roof of the ventricle, extending upward and embracing nearly all the posterior half of the anterior central and the posterior third of the middle frontal convolutions. The whole central portion of this mass was simply clot, while the tissue surrounding it was broken-down cerebral substance mingled with blood. The comparatively normal tissue in the immediate vicinity had imbibed blood coloring matter. The choroid plexus also highly congested.

The third, fourth and fifth ventricles normal.

The white substance of the right middle lobe slightly congested.

The pons, medulla oblongata and cerebellum all normal.

The circle of Willis normal and no lesion could be found in its branches.

The optic tract normal. The thalamus opticus presented no softening. All the other structures of the cerebrum normal.

There are many points of interest in this case, presenting, as it did, a large number of typical symptoms of cerebral tumors, and later on side by side in contrast with those due to cerebral hemorrhage. If we turn back to the classification of O'Brien, we find that out of the 18 *initial symptoms* this case presented 12; of the 17 *secondary symptoms* 14 occurred, and of the 12 *terminal symptoms* 9 were manifest before death. It will be seen, however, that a division of symptoms would bear only a general likeness to those in the above classification. A comparatively early diagnosis of cerebral neoplasm was not difficult in this instance, and in the latter stages rapid progress alone led to a suspicion of its malignant nature. Its location was thought to be in the posterior superior part of the left middle lobe, perhaps encroaching on the posterior lobe; and though the tumor proved to be altogether in the latter lobe, the meagre indications laid down by authorities did not warrant such a conclusion in this case. Of the symptoms named by one writer (and quoted on another page) as denoting this location, only one appeared with any persistence, and that one relating to sense of vision and common to tumors in all situations.

This affords an instance of the little value of symptoms, except of a positive character, as evidence of the

location of brain disease. In treatment the efficacy of even minute doses of medicines in palliating suffering was often seen. *Kalmia*, *ipæcac*, *ignatia*, *thuja*, *spigelia*, *hyoscinus*, *lachesis*, *nux vomica*, etc., were at times indicated, and of much service, but when it became necessary to suppress sensation to gain relief, nothing acted so quickly and pleasantly as hypodermic injections of *morphia*. The weeks of improvement in January and February followed the continued use of *thuja*, but it does not go with the saying, that the gain was due to the remedy (keeping in mind the history of cerebral growths), though it was hoped, from the indications for this drug and its known influence on certain formations, that its action might be beneficial in this case. *Quinine* and other antiperiodics were administered freely in the earlier stages to remove any doubts of malarial infection, and *iodide of potash* to relieve any suspicion of accidental syphilis. The first drug seemed to intensify the headaches and the last was not well borne except in very moderate doses.

FLUIDITY AS A PHYSICAL FACTOR OF THE ORGANISM.

By GEO. H. TAYLOR, M.D., NEW YORK.

More than three-quarters of the substance of the living organism is fluid. The powers peculiar to vital objects are maintained by constant interchange of substance with the outer world, requiring for this purpose the intervention of the fluid form of matter.

The science of physiology is therefore largely a detail of the activities and changes occurring in the bodily fluids; and therapeutics, which of necessity is limited to physiological channels, secures its purposes through this physical accessory.

It is interesting to note in this connection that while food material consists chiefly of easily divisible solid matter, the changes to which it is subjected for the purpose of disengaging energy (the radical purpose of food), produce in it a series of physical transformations, causing progressively diminishing cohesion of its atoms. The result is that nutritive substance, when finally disengaged from the organism, has become wholly deprived of the cohesive quality; this appearing to have changed to mutual repulsion of atoms, as seen in the carbonic acid and aqueous vapor into which nearly all has been converted.

Accompanying the loss of cohesion of atoms, which is a form of physical energy, there is a loss of chemical energy. The substance of the body in every stage of its career acquires diminished complexity of chemical composition, till those of utmost simplicity are reached.

The importance of the physical property of fluidity is better appreciated, when it is considered that all support of vital energy arises from the contact of the vital molecule with nutritive fluid, and that no discharge from the organic system of matters which have actually participated in vital phenomena is possible in any other than the fluid and gaseous forms.

The fluids which practically fill the whole body as a sponge is filled with water, and which both nutritively and mechanically sustain its organs, may be regarded, for the present purpose, as being comprised in two divisions—those within the circulatory vessels, and those outside of these vessels.

The circulatory vessels, whose purpose is to diffuse throughout the organism both nutritive support and the oxygen by which energy is disengaged, are physically and essentially a hydraulic apparatus. The contents of these vessels are urged throughout their course by mechanical impulses derived from the vascular walls. The heart and arteries, which are highly muscular, are a hydraulic mechanism.

This mechanical action of the containing walls is, however, practically insufficient; it is therefore supplemented by several other physical aids. One of these is

the nutritive attraction of *acting* muscles, secreting glands, and other tissues, for the contents of the blood vessels; another is the vaporization continuously going on in health from all exposed surfaces, which compels the contents of the vessels to rush forward to supply the place of fluid thus lost; but the most powerful as well as contributory to them, is the mechanical action of the skeletal muscles, which always afford intermitting compression, and therefore urge forward the contents of all vessels, arterial and venous, of every dimension.

The physical aid to the circulation of the blood derived from muscular action cannot be dispensed with for any considerable period without serious damage. Deprivation of this is followed by deficient supply to the skin and extremities of the oxygen borne by the circulation; by the decline of heat and those tissue changes by which heat is evolved.

Insufficient physical aid from the muscles is, therefore, practically the arrest of the progressive changes of matter which *must* attain the fluid state, if it is ever to emerge from the system.

The retention of material in some semi-fluid form, whose nutritive purposes are uncompleted, offers physical obstacles, both chemical and mechanical, to the proper working of the organic processes.

The consequences of unsupplied muscular aid for the circulation can be properly remedied only by supplying the aid, which is mechanico-physical. In ordinary practice, however, this supply is usually attempted in an indirect way; usually by the introduction into the blood through the alimentary channel, of such medicaments as afford incitation to the vascular walls, compelling these to do the work that legitimately belongs to the whole mass of skeletal muscles. This, however, can properly be considered only as a temporary substitute for the direct physical impulse of the muscles, and in the nature of things cannot be indefinitely employed without serious damage. Vascular stimulation by medicinal incitants is simply substituting a weak and limited physical recourse for the natural, ever-ready, and superabundant one.

A ready demonstration of the correctness of these statements is easily obtained. When mechanical assistance to the flow of the blood in its vessels is given by means of exterior additional mechanical force, a change is directly noticeable in the force of the heart's action, and in the tone of the pulsation of the arteries. Such mechanical impulse unequivocally facilitates the passage of the blood throughout its capillary and peripheral portion, and is a direct auxiliary to the arterial impulses. The heart's action, therefore, immediately declines, both in force and in rapidity. Less force is required from the heart and arteries to effect their purpose, and there is therefore greater economy in the working of the vital mechanism.

The fluids outside the blood vessels, the interstitial fluids, which are intermediate between the contents of the vessels and the organized tissues, are in the direct service of nutrition.

There can be no vital manifestation whatever in the absence of physical change in the fluid in contact with the vital parts. It follows that *all* motion, whether inaugurated by change of matter in the vital tissues, cells and secreting glands, and all motion in the circulatory vessels, contributes to the physical changes of these intervascular fluids. Like the contents of the vessels, the fluids in which all vital organs are bathed are of necessity displaced, and the conditions for nutrition promoted by exterior mechanical causes.

OSMOSIS.

This term is applied to the purely physical act of the passage of fluids through the membranes—an act of constant occurrence throughout the vital system. That this act is physical in kind, is proved by the fact that it is of frequent occurrence under inorganic as well as

organic conditions. These conditions are often contrived by art for economical uses.

The leading *condition* for the exercise of this physical act is, the mechanical motion of the fluids on the opposing sides of the membrane. This act is largely under the influence of the motion of the blood in the vessels, and of the change of matter, both chemical and mechanical, in the vital parts or cells. These are promoted by exterior physical impulse. It follows that this essential physical condition is both directly and indirectly under the control of energy capable of being imparted from exterior sources of supply.

Medical practice appears to neglect the availability of this physical contribution to the vital resources. It scarcely employs it as a direct factor of nutrition, but quite unnecessarily limits its use to the transient effects of withdrawing fluids from the organism through the alimentary mucous surface, as by saline purgatives; and the imbibition of fluids, sometimes medicated, often aqueous, through the skin, as in case of poultices and compresses. The principle of osmosis is, however, a valuable one, of constant availability, for advancing all the vital processes of whatever kind, requiring only the supply of the conditions for its operation as above stated.

RESPIRATION.

The interchange of air between the organism and the sea of air in which all vital things are bathed, is physical in the larger or mechanical sense.

Respiration introduces and expels air in large volumes, amounting to five or six hundred cubic feet per day. By work, this amount is greatly increased in the ratio of increased need superinduced thereby. The thirty cubic inches changed by each respiratory act easily amounts to larger numbers; while by effort, or forced respiration, it is possible, as stated by physiologists, to change two hundred and fifty cubic inches at a single respiratory act. This shows how largely the process is ordinarily controlled by circumstances, and that it easily responds to the vicissitudes and emergencies of vital requirements. It hence follows that it is less the mechanical act than the vital requirements which control the imbibition of oxygen and the exclusion of carbonic acid, the paramount purposes of the physical process under discussion.

Respiration is invariably defective in disease of whatever kind, acute or chronic. The efficacy of this physical process is therefore of controlling importance, whatever the views, or theories, or side issues, or temporizing processes resorted to by the medical prescriber. All remedies are useless in proportion to their incapacity for restoring this physical process; and become useful when their employment, either incidentally or unconsciously, or directly and intelligibly, restores this fundamental process.

The pharmacopoeia includes no remedy directly adapted to this end; most of them, as will be shown hereafter, further the purpose of restoration through indirect means and channels.

The neglect by medical practice of the mechanical process of respiration, is necessarily accompanied by the neglect of some of the indispensable and far-reaching consequences of defects in this mechanical act. It has placed medical science at the greatest possible disadvantage, even in some of its most important branches and forms of development.

For, the rhythmic motions of the respiration of animals are incomplete unless they extend *beyond* the organs adapted to the aëration of the blood, so as practically to include the mobile mass constituting the digestive apparatus and the pelvic contents, in the lifting, surging motion propagated from the chest. This mechanical impulse produces several indispensable effects, which include the displacement of the fluids of the pelvic region, including the contents of the blood, lymphatic, lacteal and other vessels, as well as the interstitial fluids

depending on these; promotes absorption of digested matter; fructifies the muscular nutrition and power of all visceral organs; and, not the least, maintains against gravity and all other forces combined the natural mechanical and also the physiological relations of the contents of the pelvis.

The medicinal remedies which may with propriety and permanent success be substituted for the natural motions above described do not exist. Medical science, with its attention supremely engrossed by the single phase of medicine included in pharmacology, has been in long and tedious labor to bring forth adequate substitutes for these mechanical effects, so desirable and so easily attainable, but with little result. The best fruits offered belong to the domain of static as distinguished from motor physics; a substitution of outside, or, physiologically considered, crude chemistry, in place of the vito-chemistry incited by natural, motor incentives.

DIFFUSION.

The mechanico-physical act of respiration is supplemented by another act of a physical nature before it becomes in the least degree efficacious. This consists of diffusion, or the interchange between the inspired air in the lungs and the carbonic acid held in solution by the venous blood of the lungs, which is brought by it from all parts of the system to be disengaged by such interchange. Experiments prove this to be a purely physical process, for which the vital apparatus supplies the mechanical conditions; and further, that vitality does not materially participate in the physical interchange. The lesson from these physical facts is, the necessity for maintaining in action the essential contributory physical factor, to complete the respiratory purposes.

CHEMICAL PHYSICS.

The vital organism is replete with chemical energy. If the special energies of the organism that are denominated vital, are not evolved through the intervention of the form of physics known as chemistry, then science has as yet no intimation of their source or mode of emergence. In the career of matter through the organism in its successive stages of progress, it is subject to such physical influences, some of which have above been dimly shadowed forth, that even refractory combinations have yielded to the cumulative disintegrating force; have split up into simpler forms of matter and yielded the previously occluded energy liberally to the organic system.

The whole mass of the body furnishes the arena for chemical activities. The most solid parts as well as the fluids engage in incessant change of composition, or displacement of constituent elements. These processes appertain alike to the most vital and the non-vital elements; are essential for the dissociation of the special forms of energy for which the organism furnishes instruments, and for the removal therefrom of all matters embodying antagonistic chemical influences. Chemical physics are equally subservient in the constructive and in the destructive processes of organic activity, and the two purposes are carried forward conjointly throughout the whole vital system.

The evidence of these physico-chemical processes, their extent and significance, is at least approximately attained by noting the products to which the organism gives exit.

Water is constantly produced in the living body; about one and a half pounds more of this substance passes from the body daily than goes into it. This water represents so much oxygen of respiration in union with its equivalent of the hydrogen of food, and indicates a definite amount of heat, or some form of vital energy of which heat is an equivalent. In the same way carbonic acid amounting to about the same weight passes freely from the body without hindrance the moment it is produced. This also represents its equivalent product of

energy transformable by the vital mechanism. Urea and saline matters, whose original elements also are introduced in food, are freely soluble and are drained from the system by easy and natural processes and channels. The whole organism is therefore free for the unembarrassed continuance of the same order of chemical physics, and consequently the evolution of the same form of energy through the organic instruments.

It follows that the irregularities and the aberrations in the manifestation of the vital products, whether of matter or of energy, must have a physico-chemical foundation.

In practice, these aberrations, which in their effects and evidences are called ill health, consist in general of *incompleteness of the processes*, through insufficiency of the physical conditions. For the abundant appearance of the *completed* products, carbonic acid, water, urea, and the associated salines, are co-incidental with the largest development and expenditure of power; while unfinished products, which in the following chapters will be comprised under the general term of *sub-oxides*, are the constant concomitants of disease.

These considerations afford a just comprehension of the problem and purpose of remedies. Aside from the nervous and sensory complications which the organism affords, and which are at least an apparent justification for temporary medical expedients and palliations, all processes of cure necessarily include means for securing completeness of the chemical forms of the materials employed in supporting the vital energies, in which materials these energies have, in fact, their source. Remedial methods supply to the system the necessary facilities and conditions for hastening and perfecting the too tardy and imperfect chemical changes. These processes have dual relations; the first is to the organism as a chemical mass; the second relates to the interrelation of its parts considered in the light of special functions; for all functional activity is a local and special application of the same principle.

Chemical physics in the living body has also numerous forms and phases as well as stages. For example, in the digestive organs, its object is attained in effecting fluidity of the ingesta. Little if any change is produced or desirable relating to the chemical composition of aliment; it is only disintegrated; and so much as becomes fluid immediately enters the system. Insolubility of aliment is nature's chief protection against constant liability to overburdening the system.

In the secreting organs, glands, and surfaces, new products are formed, necessary for the subsequent career and progress of nutritive material. In the intervascular fluids, heat-production is the evident purpose. This is required no less for the advantage of the fructifying influence of the heat, than for the constant necessity for disposing of the presence of non-nutrient and otherwise injurious matter. The evidence of these statements appears plainly when we use means for inciting the effects named.

In the vital tissues, vito-chemical activity is incessant, in degree proportioned to the disengagement of energy; this occurs in the forms of heat, muscular and nervous power, in their great variety of differentiated forms. The operations of vitality are impenetrable by our present capacities and means of observation. There is, however, strong reason for believing that these energies proceed from the vital cell in connection with *completed* products of oxidation, and *not* when the products are sub-oxides, except perhaps as to heat. Physiological chemists have repeatedly shown that during muscular contraction, carbonic acid and traces of urea proceed from the muscle cells; and therapeutic observation is equally clear as to the proportionate increase of these products coincident with incitation of muscle-cell activity.

The special point to which attention is called in this résumé of the mechanical and chemical physics of the organism is this: the evolution of energy, available for

the individual's uses, is the aim and purpose of the organic system. This result is attained only at the last stage in the career of matter in it. The end is reached only through intermediate progressive stages of chemical change. There is no other route provided by the organism. Neither hygiene or medication can possibly cause material support to travel other courses, or provide other and different stages, to reach this ultimate goal, there being no other. It follows that the mechanical and chemical physics, abounding in the living organism, are contributory to this last phase of chemical activity; and the perfect attainment of its purposes, by which alone the perfection of vital power, that is, health, is secured depends on the perfection of these contributory physical conditions and processes.

Medical practice, through its whole history, and in all its eccentricities of development, has practically recognized the all-controlling importance of the chemical phase of organic activity. Its methods have been essentially chemical; its remedies, that are real and not factitious, are nearly limited to chemical incentives and repressives of local and general function. Its defects, therefore, have been narrowness of scope, limitation of resources. It has ignored the natural contributory physical conditions; it has overlooked these physical concomitants, which may be varied almost at will, in its eagerness to reach the last stage of the physical conditions first, by some short medicinal route, like the attempt to travel first, the last mile of a proposed journey.

The vital organism contains within itself resources adequate to the *maintenance* of health. These are of a *physical* character, in their primary adaptation. They are susceptible of almost infinite variability. It is such variability, mostly in the line of defect, that renders ill-health possible. Special functions, as we see in the practice of medicine, are subject to increase and diminution; that is, of regulation by means of suitable remedies ordinarily employed for that purpose. But no less susceptible to regulation are the bodily functions by incitation and repression through the agency of physical energy; but the latter has the immense advantage of also securing *development*, increase of the substance and power of the instruments of power, and the automatic continuity of its work, which alone constitutes health. Hence the great superiority of the latter means in its adaptation to the needs of the chronic invalid, who inevitably suffers not merely the defect of function, whatever that may be, but also and primarily, defect of the *instruments* of function. The muscles fail in substance as well as in power; and so of every other organ of the body.

LIQUOR AMNII AND ITS USES.—Dr. J. C. Sanders, in a paper on this subject (*Med. Counselor*, Oct. 1, 1883), lays down the following as "two great rules in the conduct of labor: 1. The waters are to be maintained unbroken for the entire duration of the first stage of labor. 2. If not before broken, this is to be done immediately on the close of this stage, so soon as practicable after the inauguration of the first stage.

"The complications and conditions which would justify the violation of this rule are comprised in the following summary: 1. Hemorrhage. 2. Eclampsia. 3. Powerless. 4. Great excess of the *liquor amnii*, interfering with the proper co-ordination of the contractile forces of the uterus. 5. Preternatural adhesion of the chorion in its decidual connection with the womb-wall, or preternatural density and toughness of the chorion, by either of which the waters cannot be made to bag, whatever the degree of dilatation.

"With these complications or conditions excluded, this rule should be inviolably maintained.

"The second rule should never be violated in labor with a single fetus; its rigid observance has no exception. In case of twin labor, however, one child born,

and no evidence of uterine activity for the delivery of the second child, and the mother having suffered much fatigue in the labor with the first child, and with no hemorrhage following it, the immediate or prompt breaking of the waters of the second child would be a clear violation of obstetric duty, which in such case surely demands delay until the mother has been given reasonable time to recover from the fatigue and shock incurred by the delivery of the first child. Or if the first child, living or dead, were premature—the labor ensuing for the delivery of the second child, and this a living one—the enforcement of the rule would not only be a violation of clear obstetric duty, but might prove disastrous to the hopes of the family. But in either one of these cases of twins, as soon as labor ensues with the second child, or with the third, or fourth, the rule comes at once into force, and should be promptly observed."

A SEVENTH SENSE.—Sir William Thomson, the eminent Professor of Mathematics in the University of Glasgow, in his inaugural address, delivered last week, as President of the Midland Institute, at Birmingham, broached the idea of the existence of a magnetic sense. This sense he called the seventh sense, to distinguish it from our other six senses—namely, those of sight, hearing, taste, smell, heat and force.

He said, in speaking of a possible magnetic sense, he in no way supported that wretched groveling superstition of animal magnetism, spiritualism, mesmerism, or clairvoyance, of which they had heard so much.

There was no seventh sense of a mystic kind. Clairvoyance, and so on, was the result of bad observation chiefly, somewhat mixed up with the effects of willful imposture, acting on an innocent and trusting mind. If there was not a distinct magnetic sense, it was a very great wonder that there was not. The study of magnetism was a very recondite subject. One very wonderful discovery that was made in electric magnetism was made by Faraday, and worked out very admirably by Foucault, an excellent French experimenter, showing that a piece of copper, or a piece of silver, let fall between the poles of a magnet, would fall down slowly, as if through mud. Was it conceivable that, if a piece of copper could scarcely move through the air between the poles of an electric magnet, a human being or living creature, in the same position, would experience no effect? Lord Lindsay got an enormous magnet, so large that the head of any person wishing to try the experiment could get well between the poles; and the result of the experiment was marvelous, the marvel being that nothing was perceived. Sir William Thomson, however, was not willing to admit that the investigation was complete. He could not think that the quality of matter in the air, which produced such a prodigious effect on a piece of metal, could be absolutely without any perceptible effect whatever on a living body. He thought the experiment was worth repeating; and it was worth examining whether or not an exceedingly powerful magnetic force was without perceptible effect on a living vegetable or animal body. His own speculations had led him to conclude that there might be a seventh or magnetic sense; and that it was possible an exceedingly powerful magnetic effect might be produced on living bodies that could not be explained by heat, force, or any other sensation.—*British Med. Jour.*

CACTUS GRANDIFLORUS IN SEXUAL EXHAUSTION.—Dr. Pitzer (*American Medical Journal*) says that while other remedies are required to effect a permanent cure, nothing will give more speedy relief in this condition than *cactus grandiflorus*. It immediately strengthens the cardiac plexus of the sympathetic and improves nutrition of the heart. The pulse becomes regular. The expression is hopeful, and past sufferings seem to have been only dreams.

CLINIQUE.

TOTAL BLINDNESS OF THE RIGHT EYE RESULTING FROM EMBOLISM OF THE CENTRAL ARTERY OF THE RETINA COMPLICATING ORGANIC DISEASE OF THE HEART.

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Prof. of Physical Diagnosis and Diseases of the Heart and Lungs, New York Hom. Medical College.

On the 24th of September, Mr. D. P. D., age 27, visited me with a letter of introduction from Prof. G. C. McDermott, M.D., of Cincinnati, Ohio. The letter stated that the patient was suffering from the effects of embolism of the central artery of the retina, which had produced total blindness of the right eye. The Doctor further stated that he had discovered evidences of organic disease of the heart, and desired my opinion as to the latter condition and its relation to the embolus which had produced the blindness.

The history of the case was as follows:

The man was by occupation a farmer. In June last, while in his usual state of health, he had a profuse nose-bleed, which continued for several hours. It was finally controlled, leaving him weak and light-headed.

As it was not uncommon for him to suffer from nose-bleed he thought but little of this unusually profuse attack, and, although somewhat weakened, resumed his work the following day. While ploughing in the heat of the day he was suddenly seized with dizziness, which obliged him to quit work and return to the house. Shortly after he noticed that the sight of the right eye was dim, and in about fifteen minutes from the onset of the attack the sight was entirely gone, and everything, so far as that eye was concerned, was perfectly black before him. The left eye was in no way affected. He consulted several physicians in his immediate neighborhood, who were at a loss to account for the condition; finally, he visited his father in Cincinnati, who took him to Prof. McDermott. This was three months from the date of the accident. By an ophthalmoscopic examination the doctor found the arteries of the retina empty and shrunken; and taking the history of the case into consideration unhesitatingly pronounced it one of embolism of the central retinal artery—of course giving an unfavorable prognosis so far as the recovery of the sight of the eye was concerned. On further examination he discovered the evidences of cardiac disease before referred to.

From my case book I take the following notes:

Family history. Father living and healthy, age 56. Mother died of phthisis at 40 years of age. Has one brother and one sister; neither of them strong.

Patient as a child was always healthy, although subject to nose-bleed; was very active, and quite an athlete. Some eight years ago, after violent gymnastic exercise, had pain in the precordial region, which lasted for quite a while and was called by the physician in attendance rheumatism of the heart.

Four years ago had a slight pulmonary hemorrhage, and two years subsequent had another—on each occasion spitting or coughing up about a tablespoonful of bright blood. About these times had a slight cough, which, however, did not last long, and was accompanied by little expectoration.

Has never had rheumatic fever, but has at times suffered from pains in various portions of the body which he supposed were rheumatic. Had never been confined to the house by these pains.

Lives in a malarious section, and has suffered from what had been called "dumb ague."

Habits temperate; neither smokes nor drinks except occasionally, and then in great moderation.

Present condition: Feels perfectly well; his appetite is good, digests his food, and sleeps well; bowels inclined to be constipated.

Has noticed some shortness of breath on going up stairs, climbing a hill, and while taking violent exercise; at these times his heart would beat with unusual violence.

Physical examination showed him to be well nourished, and, aside from a slight dullness and tubular breathing at the apex of the right lung and diminished chest capacity as measured with the spirometer, no evidence of pulmonary trouble. Liver dullness was normal. Spleen slightly enlarged.

The area of cardiac dullness was not increased to the right, but extended one inch to the left of the left normal line; and the apex of the heart was found in the sixth intercostal space about one inch lower than its normal position, and one inch further to the left. Auscultation: At the apex was heard a murmur systolic in time; in fact taking the place of the first sound of the heart. The second sound was pure, but feeble.

In the second intercostal space at the right edge of the sternum the murmur was heard, and in this locality it was much more intense than at the apex. The murmur was heard over the upper and middle portion of the thorax, and also in the carotids of both sides. At the base of the heart and in the carotids the second sound was also pure though feeble. From the apex the murmur was not conveyed to the left. At the tricuspid orifice both sounds were pure. Although the action of the heart was forcible, the pulse at the wrist was feeble and compressible. The daily quantity of urine was less than normal, but contained no albumen.

Remarks:—As was stated, at the time of his visit the patient seemed to be in perfect health.

The dullness and tubular breathing at the apex of the right lung undoubtedly arose from an old catarrhal pneumonia which had resulted in cicatrization and solidification of that portion of the lung, with dilatation of the bronchial tubes. The attacks which had resulted in this condition occurred probably at the times of the slight hemorrhages alluded to in the history of the case.

So far as the heart was concerned, the signs on percussion, and the change from the normal in the location of the apex, were positive evidences of hypertrophy of the walls of the left ventricle, the right being normal.

The systolic murmur—not conveyed to the left of the apex, and heard with greatest intensity at the base of the heart and conveyed to the arteries of the neck—was positive evidence of constriction of the aortic orifice, the valves being perfect to close the orifice, for the second sound was pure, though feeble. The diagnosis of aortic stenosis was confirmed by the evidences of left-sided hypertrophy, by the powerful cardiac impulse with the feeble pulse, and by the sphygmographic tracing, a copy of which is here given, and which is characteristic of obstruction at the aortic outlet of the heart.



Now, the interesting query is: What had this condition to do with blindness of the right eye? For aside from this, the patient was not aware of any departure from the normal condition of his system.

We will endeavor to answer this, and then ask and answer the question, Why, with this deformity, was

the patient at the date of his visit unconscious of his condition, and in such apparent good health? We will then endeavor to account for the constriction at the aortic orifice.

It is conceded that the blindness resulted from an embolus which entered the central artery of the retina of that eye, closing the vessel and preventing the passage of blood beyond the point where it became wedged. The blood supply being cut off, naturally the function of the retina was destroyed.

An embolus is a solid substance circulating in the blood current.

Embolism is the arrest of this solid substance where the vessel becomes too small to admit of its passage.

The solid substance may be a thrombus. It may be a vegetation or a calcareous or atheromatous mass separated from the valves of the heart or from the inner surface of the arteries. It may be a portion of a new growth, as carcinoma, which having perforated the vessels has been carried away by the current. It may consist of parasites which have made their way into the interior of vessels. It may consist of pigment granules, and of other substances (Green). In this case the embolus could hardly have been a vegetation from the edges of the valves of the heart, for there had been no recent acute valvulitis, and any granulations which may have formed had had time to become fully organized.

It could not have been a calcareous mass, for the cardiac murmur was not of the rasping character generally produced by calcareous deposits at the orifices of the heart. There was no evidence of carcinoma, of parasitic disease, or of pigmentary degeneration. Consequently, we are obliged by exclusion to fall back upon thrombosis for the origin of the solid mass which clogged this vessel. According to Green, thrombosis is a coagulation of the blood within the vessels during life. This coagulation, he says, is owing to changes in the walls of the vessels, or to *impeded blood flow*. In this case the youth of the patient and his temperate life would exclude atheromatous changes in the walls of the vessels.

Was there a condition of impeded blood flow at the time of the accident? The patient was suffering from constriction of the aortic orifice of the heart. He had on the day previous a profuse epistaxis, continuing for hours, and producing marked symptoms of general anemia. The quantity of blood in circulation had been greatly diminished. The muscles of the heart, with those of every portion of the body, were weakened. The heart, missing its ordinary amount of stimulus to contraction within its cavities, was still further hampered in its action. He was engaged in active exercise far beyond his strength in the heat of the sun.

Surely it is safe to say there was impeded blood flow.

A thrombus may form in the heart, in the arteries, in the capillaries, or in the veins.

In this case the thrombus could not have been of venous origin, for to close the retinal artery it would necessarily have been far too large to have passed through the pulmonary capillaries, which would have been its course in reaching the arterial blood current.

For the same reason it could not have been of capillary origin.

To have formed in an artery there must necessarily have been some change in its dimensions or some abnormal condition of its walls. There was no evidence of an aneurism; there was nothing to lead to the conclusion that there was a constriction of any of the arteries. We have excluded atheroma. We therefore conclude that the thrombus formed in the heart.

Why should a thrombus have formed, and where in the heart was it located? All who have been in the habit of making post-mortem examinations are familiar with the ante-mortem clots, thrombi, which are found entwined around the columnæ carneæ, particularly in the right ventricle of the heart and sometimes plugging the orifice of and extending some distance into the

pulmonary artery, in cases where the death process has been slow and the action of the heart feeble. In this case the action of the heart, owing to the causes mentioned, was feeble. There was a roughened and a constricted aortic orifice. We had then three of the causes enumerated, for the formation of thrombi. Undoubtedly the clot formed at the aortic orifice was broken from its attachments, entered the blood current, and finally by the sheerest accident found its way into the central retinal artery, where, when the dimensions of the vessel became too small to admit of its passage, it became wedged, putting a stop to the blood supply beyond that point, the result naturally being blindness of that eye.

Why with this deformity of the heart was the patient unconscious of his condition and in such apparent good health?

An obstruction to the blood current at the auricular ventricular orifice of the left side, whether it be from regurgitation owing to insufficiency of the mitral valve or from constriction of the orifice, *always* produces shortness of breath on the least extra exertion, such as ascending stairs, climbing a hill, or running; the obstruction preventing the proper emptying of the left auricle. Consequently the pulmonary veins are overfull; the same with the pulmonary capillaries. As a result we have diminished lung capacity—breathing surface—for the over-filling of the capillaries is at the expense of space in the pulmonary vesicles. There being but a given amount of room in the thorax for lung expansion, the lung capacity for air is diminished; the breathing is short on exertion. True, there is compensating hypertrophy of the right ventricular walls, which to a certain extent overcomes the obstruction at the mitral orifice, but this very hypertrophy has a tendency to distend the pulmonary capillaries at the expense of the air in the vesicles.

A patient with mitral disease is always conscious of the fact that something is wrong. Not so with disease of the aortic orifice or valves. Here there is compensating hypertrophy of the walls of the left ventricle generally sufficient to send a proper supply of blood through the constricted orifice, and, even in cases of regurgitation, to empty the ventricle at each systole of the heart. Consequently, there is no obstruction to the emptying of the auricle, no overfilling of the pulmonary veins or capillaries, no diminished chest capacity for air, no shortness of breath, no consciousness of ill health, *so long as compensation is perfect*.

In this case, it is true, there was some shortness of breath on great exertion, but that could be accounted for by the fibrous solidification at the apex of the right lung.

How do we account for the constriction of the aortic orifice?

The patient had been an athlete, had been accustomed to physical effort beyond his strength. There was no history of inflammatory rheumatism, which is the most common cause of the endocarditis that results in valvular disease, neither was there a history of any of the diseases which are sometimes complicated by endocarditis; but there was a history of great physical strain, followed by pain in the præcordial region, which continued for a length of time. Undoubtedly, on this occasion, one of the segments of the aortic valve gave way under the pressure and was torn. Recovery from the inflammation thus excited was perfect, so far as rendering the valve competent to close the orifice was concerned, but, as is generally the case, there was a development of fibrous tissue and vegetations on the under surface of the valves, which roughened them and narrowed the outlet.

PINUS CANADENSIS IN LEUCORRHEA.—Dr. Upson, of Marshalltown, Iowa, writes that he has had unbounded success with the *pinus canadensis* bark in leucorrhœa and gonorrhœa.

OBSTETRICAL MEMORANDA.

BY SHELDON LEAVITT, M.D., CHICAGO.

XII.—THE IMPROVED CÆSAREAN SECTION.

Beginning at page 337 of the *American Journal of Obstetrics*, Vol. XVI., and extending to page 621, is the latest and best treatise on the Cæsarean Operation, by Henry J. Garrigues, A.M., M.D., of New York.

It is according as Dr. Garrigues says concerning this operation, "Cæsarean section, especially here in America, is so rare, that no one has much chance of acquiring great personal experience in its performance. Here, more than anywhere else, must we profit by the combined experience of different men."

Comparison of Cæsarean Section and its Substitutes.—The article is a thoroughly practical one, deals sparingly in figures, and leads one on through a sufficiently extended review of the various modifications, to what in the main appear to be well grounded conclusions regarding the real improvements which have been proposed. The doctor starts out with an allusion to the operations to which resort may be had when delivery cannot take place *per vias naturales* at all, or at least without extreme peril to the woman, namely: gastro-elytrotomy, the Cæsarean section, utero-ovarian amputation, and total extirpation of the uterus; and afterward proceeds to a detailed consideration of those which he has not already elsewhere discussed at considerable length.

Total extirpation of the gravid uterus, we are told, has been practiced but twice, viz., by Bischoff, in 1879, and by Spencer Wells, in 1881; the latter being the only successful case.

Porro's operation, which consists in amputation of the uterus just above the internal os, and also removal of the ovaries, receives considerable attention. While statistics seem to declare the advantages of the latter operation, Dr. Garrigues coincides with Dr. Robt. P. Harris in the opinion that in America, if not elsewhere, the Cæsarean operation is to be preferred. The premise from which this is inferred is probably strong, but still it has some weak points. In the performance of Porro's operation, with or without Müller's modifications, a larger number of skilled assistants are required than in ordinary Cæsarean section, and this fact militates against the adoption of the former in private practice, especially outside large cities. But when the operation of Porro is depreciated because it deprives the patient of the organs essential to procreation, our author, in my opinion, advances a silly plea. Some will disagree with me, but I truly regard the unsexing of a woman whose pelvic capacity necessitates the performance of an operation which in most instances is attended with fatal result, as a real blessing in disguise.

As for gastro-elytrotomy, which Dr. Garrigues looks upon with great favor, it is still on probation, and in my humble opinion, should be regarded as subsidiary to the improved gastro-hysterotomy.

Among the improvements made in the Cæsarean operation our author ranks antiseptics as the most important. "Of all modern modifications of Cæsarean section," says he, "the adoption of the antiseptic method is the most important, and will, no doubt, when strictly carried out, enhance the chances for a good result very materially." There can be no reasonable doubt that the adoption of antiseptic precautions in surgical and obstetrical practice serves to augment success; but this does not necessarily include the use of the carbolic spray. Full Listerism has not developed the wonderful results which were anticipated, and hence there has been a reaction from the extreme practices at first adopted. "It will be very interesting," continues Dr. Garrigues, "at some future date to examine the results obtained in Cæsarean section, when really performed according to Mr. Lister's principles. So far, such operations are too

few in number to prove anything. It would not be worth while yet to search for them."

Time for Operating.—The close of the first stage of labor is generally chosen as the preferable time for operating, but we are told that the chief concern is to see that labor pains are well and reliably established. He advocates early operation, as do most of the recent writers on this subject, but regards the induction of premature labor, as practiced by some, as unlikely to contribute materially to success.

Rupture of the Membranes.—As a preliminary to the operation he believes it wise to follow Guéniot's advice and rupture the membranes, unless Müller's plan of turning out the uterus before incision is to be followed. He says there need be no fear of cutting the fœtus as the result of bringing the uterine walls and the fœtus into close contact by permitting the water to escape.

The Incisions, etc.—It goes without saying that the incisions should be long enough to permit easy extraction of the fœtus. That in the abdominal wall would best be carried from the umbilicus to within about an inch of the symphysis pubis.

The uterine wound should be made with great caution, for just there is encountered the greatest danger, namely, that arising from hemorrhage, since in about fifty cases out of a hundred the placenta is located on the anterior wall of the organ. To prevent serious loss of blood he favors Müller's plan of constricting the uterus at the cervix with an elastic tube, and then turning out the entire organ before it is incised. He commends Leopold's expedient of covering closely the abdomen around the extroverted uterus with gutta percha tissue which has been rendered antiseptic. The uterus and other exposed parts ought to be kept warm by cloths dipped in carbolic or diluted chlorine water, or a 0.2 per cent. solution of chloride of zinc. He does not favorably regard Kehrer's recommendation to incise the uterus transversely just above the internal os, since there is considerable danger of cutting large blood-vessels, and it would interfere with the application of the constricting band before alluded to. I need not say that he prefers the longitudinal incision.

He indorses Guéniot's suggestion to wait three or more minutes before removing the afterbirth, unless the hemorrhage should chance to be profuse.

Then comes the question of uterine sutures, on which I quote as follows: "In olden times surgeons were afraid of causing inflammation by introducing sutures which they could not get out again; now-a-days we know that different substances, such as silver, silk, rubber, etc., may be left in the peritoneal cavity without doing the least harm, provided they be aseptic. There is, therefore, no longer any excuse for not using the suture." * * * "When no suture is applied, even in successful cases the wound has been found united to a slight extent only, leaving a thin cicatrix with insufficient power of resistance, and consequently apt to rupture in a following labor." It is certain that late literature concerning this operation shows a decided leaning toward the introduction of uterine sutures. Dr. Garrigues advocates the use of both deep and superficial stitches.

These are designed to meet two indications, namely, to get as deep and narrow union of the muscular wall as possible, and to obtain union of the peritoneum. To best secure the latter the serous surfaces are brought into contact. It is generally possible to do this by means of well applied superficial sutures, the peritoneum, with the immediately subjacent tissues, yielding to the requisite extent, but in exceptional cases Sînger's method should be adopted. This consists in dissecting up the peritoneum and a thin layer of muscular tissue, for a little way on either side of the incision, and cutting out a slice of the muscular structure beneath it, when the peritoneum is folded inward, and the whole brought snugly together by means of both superficial and deep sutures. In passing the deep stitches it is better not to

include the entire thickness of the uterine walls, for fear that septic matter from the uterine cavity may follow the track of the sutures with serious results. As material for sutures, silver wire and silk are eminently preferable. "The best of all," says he, "is carbolized silk."

He believes it advisable to close the abdominal wound throughout its extent, except when the accumulation of bad fluids is anticipated. In the latter case drainage should be provided for.

XIII.—CLASSIFICATION OF THE PORRO OPERATIONS.

In the *American Journal of the Medical Sciences* for October, 1883, Dr. Robert P. Harris, who is the best American authority on the Cesarean section and its substitutes, has something to say concerning the various operations which have been included by many under the general head, "Porro's operation." He says there are nine of these operations, with a widely different rate of mortality. He has divided them into four classes, viz.: 1. True Porro operations; Porro-Müller operations. 2. Puerperal utero-ovarian amputations, with pedicle dropped in. 3. Premature ablations of the gravid uterus, the fetus not being viable. 4. Prévôt's operation, mis-called "Porro," this being utero-ovarian amputation after laparotomy for rupture of the uterus. He produces statistics which show $46\frac{1}{4}$ per cent. of recoveries after Porro's original operation, and $52\frac{1}{2}$ per cent. after the Porro-Müller operation. The results of both combined are $48\frac{5}{8}$ per cent. of recoveries, and the delivery of 90 living children out of 118 cases.

A CASE OF PUERPERAL FEVER.

By C. J. FARLEY, M.D., FORT EDWARD, N. Y.

Mrs. F., aged 18 years; primipara; eight days after confinement was seized with a hard chill, followed by distension of the abdomen, with extreme tenderness and severe pain, for which *hot poultices* were applied; *carbolic acid* was given internally and as a vaginal injection. After a trial of these measures the pulse still numbered 140, and the temperature 103° to 105° . This condition continued, with the usual alternation of temporary improvement and aggravation, for three weeks, when the case came under my care. I found the patient suffering from chills, fever, profuse sweats, thirst, delirium, diarrhoea, nausea and vomiting, tongue coated brown, edges red, pulse 140, temperature 105° , distension and soreness of the abdomen, eruption over the surface of the whole body. There was also cough attended with lancinating pain in the lower lobe of the right lung. The left mamma had gathered, had been opened and was discharging freely. The right breast was also the seat of an abscess, which on being lanced discharged a large quantity of pus.

Treatment.—Gave *arsenicum* 2d and *veratrum vir.* 1st, in alternation, at intervals of thirty minutes; also two grs. of *quinine* every three hours; also *milk punch* and *beef tea* in as large quantities as the stomach would bear. A cloth saturated with *turpentine* was applied to the abdomen, and over that hot flax seed poultices, to be changed hourly.

This treatment was continued several days with little, if any, improvement. Internal abscess was then expected, which indeed proved correct, a copious discharge of pus per vaginam showing extreme suppuration in that locality. This was followed in a few days, by an increase of cough and evidences of the formation of an abscess in the right lung. The supporting treatment was maintained, and *maltine* and *cod liver oil* added. The progress of the disease was finally arrested; the convalescence was slow; the patient, however, ultimately recovered from a serious and well nigh fatal illness.

IMPOTENCE AND NOCTURNAL EMISSIONS TREATED BY GALVANISM.—Dr. William F. Hutchinson remarks, in the *N. E. Med. Monthly*, Oct. 15, 1883, that he has never seen, outside of the Grand Bazar at Constantinople, any drug which was a direct and undoubted aphrodisiac. "There was a crimson elixir sold there a few years since which was certainly that—and which acted without any subsequent loss of power, so far as a limited experience of it warrants me in speaking—but its composition was entirely a secret."

"Electricity has been employed for a long time in these cases, until quite lately by charlatans alone, and even in their hands has yielded good results. Early in my special study of electro-therapeutics, in 1874, the idea occurred to me that faradism could be applied to the male generative organs in a better way than by manipulation with rheophores or the electric brush. I therefore devised a special electrode, in the shape of a cylinder of metal, within which plays a piston, the rod of which is surrounded by a weak spiral spring bearing upon the inside of the closed end of the cylinder. Resting upon the piston is a pad of surgeon's sponge. The tubes are made of different diameters, varying from $\frac{3}{4}$ to 2 inches, and from $3\frac{1}{2}$ to 5 inches in length, and, during the application surround the penis, the sponge pad, moistened with salt water, pressing against the glans. The current should be exceedingly fine faradism, i.e., of rapid interruption, of high tension and fair quantity. In other words, it should be as strong as the patient can bear without pain and without shocks. Applied in this way, with a large negative sponge electrode at the back, under the lumbar vertebrae, the patient comfortably recumbent, the result is a strong stimulation of those branches of the sacral plexus composing the genito-urinary tract, and a corresponding increase in muscle nutrition. The penis becomes turgid, the dartos contracted, and a close watch must be kept upon the patient, lest, by continuing the application too long an emission be produced. By discontinuing the current after five minutes, or by increasing the electromotive force until it becomes painful, this result may be avoided. By a steady persistence for several months in this form of treatment, I have succeeded in rescuing several patients from that worse than death, to a sensitive man, a life of lost manhood. The applications should be made daily."

ANATOMY, SURGERY, AND HYGIENE OF THE RECTUM.—Dr. Joseph Eastman concludes an article on this subject in the *American Practitioner* for July, 1883, as follows:

1. That the rectal anatomist dispense with his drawings exhibiting the rectum distended, or borrow the contracting power of Thomas and add one with it closed.
2. I would urge the rectal surgeon for purposes of diagnosis and operation to utilize the expansive genius of Sims in throwing the rectum open.
3. I would urge humanitarians to insist that at least one-third as much time be given to unloading the alimentary canal that they take in filling the same.
4. I believe it is the duty of philanthropists and sanitarians, especially such as are so anxious to serve on boards of health, to see that water closets invite, not repel. Health boards should inspect every store, factory, and place of business, to see that clerks and employees, male and female, have such privacy and privileges of access to closet accommodations as the importance of the case demands.
5. I would beseech of doctors, philanthropists, sanitarians, and all others interested in humanity, to teach on all proper occasions the pernicious consequences of carrying a load of feces in the bowels, until it is absorbed and its odor escapes from the emunctories of the skin, or adds to the not infrequent unpleasant aroma of the human breath.

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"A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the ONLY ACKNOWLEDGED RIGHT of an individual to the exercise and honors of his profession."—Code of Medical Ethics, Amer. Med. Ass., Art. IV., Sec. 1.

Our practice is not "based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry."

THE DEATH OF DR. SIMS.

J. Marion Sims, M.D., died suddenly, of disease of the coronary arteries of the heart, at his residence in Madison avenue, Tuesday, the 13th ult., in the seventy-first year of his age. We say died, but such men as Dr. Sims are few and far between, and leave their imprint so strongly upon the records of history in scientific progress and noble work performed in the service of humanity, that they never die. Their memory and their work live through all time. In his profession Dr. Sims rose above even the higher levels of plodding intellectual labor. In his originality, in his quick perception of important facts, and the ability and energy with which he developed them and made them practical, he has had no equal in his specialty for the past century. Through the influence of his genius, and under his fostering care, gynecology at once reached a prominence it had never held before, and his teachings have formed the basis of many of the reputations and a large portion of the permanent advancements made in gynecology a generation past. The operation for genito-urinary fistula, which first brought him into prominent notice, was not original with him, but there was so little practical in the manner in which it was performed that it was but little used and was seldom successful. By his ingenuity and perseverance he so improved and systematized the different steps showing their importance and utility, that practically we owe the modern operation, with the untold benefits it has conferred on suffering women, to him. The introduction of Sims' speculum, acting on the principle of perineal retraction, has worked a revolution in gynecology, making explorations and operations not only possible, but comparatively easy, which were before, to say the least, extremely difficult and hazardous. The speculum

was invented in 1845, and this, together with his operation for vesico-vaginal fistula, and the boldness and energy with which he carried his innovations upon old ideas, and the success and excellence of his work, brought him into such prominent notice throughout the country that he was obliged to seek a larger field of labor than Montgomery, an inland city, and in 1853 he established himself in New York. Here he entered upon the practice of his specialty with all the enthusiasm and energy of his nature, and here he remained except the few years he was abroad during the civil war, which he spent in practicing his profession and teaching gynecology in the great capitals of Europe, where he was even more esteemed than at home. Shortly after coming to New York he saw the importance of establishing a hospital for the treatment of female diseases, and immediately set about his work with his usual energy and perseverance. We well remember the skill and tact with which he enlisted prominent support in his favorite scheme, and the enthusiasm with which he presented the facts both in public and private circles. As we write we recall a little incident in connection with the first city appropriation to the Woman's Hospital, and its recognition as such by the city government. Dr. Sims had commenced the nucleus of the hospital in a private house in Madison avenue, and applied to the city for an appropriation to carry on its work. The Chairman of the Committee in the Common Council to whom the petition was referred was a personal friend of the writer, and naturally called upon him for his opinion in the matter. We were already enthusiastic supporters of Dr. Sims' scheme and went with our friend to the hospital, introducing him to Dr. Sims, and explaining the object of our visit. We were taken through the rooms, saw some of the patients, and the needs of just such an institution, and the immense future before it were clearly explained. In the future, he said, when New York has become the great centre of gynecological teaching, it will be considered an honor to have been connected with the founding of this institution, which will revolutionize gynecological teaching throughout the world. So thoroughly did he magnetize our friend that he walked back to our office without a word, and his first words as he seated himself were: "That man is a genius; he will make anything go he undertakes; write out the strongest report in favor of the hospital you can put into words and I will stand by it." The report was written and adopted without a dissenting voice. A small appropriation was afterward received from the State, and the hospital organized as a Woman's State Hospital. Dr. Sims was in every sense of the word the founder of the Woman's Hospital. The original conception of the plan was his, and through his genius and energy it was carried to a successful completion. It was a strange comment upon the fitness of things, which receives frequent illustration, however, in every-day life, that a man should be slain in the house of his friends, and that an institution which owed its existence to him should deal his death blow.

From the measures which led to the withdrawal of Dr. Sims from the hospital and from the development of facts

in connection with it, many believe he never recovered, and that his days were materially shortened. The iron entered his soul, and as he quailed beneath the blow he might well have said with Cæsar, "*Et tu, Brute.*"

The facts as we recall them are these. The Trustees objected to Dr. Sims inviting more than a limited number, ten or fifteen, to witness his operations. Dr. Sims also desired to attend to his operative cases until the termination of the after-treatment, even though his term of service should have expired. The opposition of the Trustees to the wishes of Dr. Sims, notwithstanding his statement that the interest of the surgeon in the success of his operation would be sufficient to prevent the introduction of any disturbing influence, finally culminated in a resolution positively forbidding the introduction of more than a limited number to the operations. Dr. Sims thought such action on the part of the Trustees was derogatory to his position in the hospital, especially as he had been mainly instrumental in founding it, and understanding his colleagues, Drs. Thomas, Emmet and Peasley, were in hearty sympathy with him, sent in his resignation, it being understood, as he thought, they would do the same. The resignation was immediately accepted. The others stood quietly aloof and allowed Dr. Sims to be practically dismissed from an institution which was indebted to him for its very existence. These are the practical facts as we recall them. The reader will draw his own inference.

History will draw its own conclusions from the record of facts as to the treatment of Dr. Sims in this matter by the Trustees, and by the passive if not active neglect and antagonism of the men whose professional reputation, so far as it goes, he had made. In the death of Dr. Sims the profession at large has lost a brilliant genius, many of whose innovations in gynecology were original, and have not been improved upon so far by those who have attempted to follow in his footsteps.

Dr. Sims was not a voluminous writer, but all his literary efforts were characterized by clearness of diction, originality of thought and an evident mastery of his subject. Among his most important works are "*Trismus Nascentium*," "*Silver Sutures in Surgery*," "*Clinical Notes on Uterine Surgery*," "*The Microscope in the Sterile Condition*," "*Treatise on Ovariectomy*," and his Centennial Address before the American Medical Association, of which he was President. From the brief extract we give of his address at that time, 1876, may be gathered his views of the old *medical code*;—

"We boast of a Code of Ethics, the best ever given for the government of medical men; and we urge it as a model to be adopted by the profession in other countries. I would not shock the moral sense of this august body by speaking of it in irreverent terms; for I know that there are many, indeed a large majority of this Association, who believe it to be as perfect as the Decalogue, and as incapable of improvement.

"It is looked upon by some of its High Priests as the Holy of Holies, and not to be desecrated by the touch of vulgar hands.

"It is only by observing the practical operation of

laws that we can judge of their fitness and usefulness. Let us measure our Code by this universal standard. *

* * *

"There is not a man within the sound of my voice who cannot call to mind some violation of the letter or spirit of the Code of Ethics, that has occurred under his own immediate observation. Indeed, when we speak of violating the spirit of the Code, we may all as one man cry out, 'He that is without sin among you, let him first cast a stone.' * * *

"Did it ever occur to any of you that it is capable of being used as an engine of torture and oppression?—that men jealously, maliciously intent upon persecuting a fellow-member, may distort the meaning of the Code to suit their malign purposes, thus entering into a regular conspiracy to blacken character, and that under the sanctity of the Code's provisions?

"Illustrations of this are not wanting, and I could give you some astounding details. But in mercy to you, and in pity for the poor poltroons, who in the name of virtue, could so prostitute themselves to vicious acts, I spare you the recital. I have said, perhaps, too much on this theme; certainly enough to put you to thinking. This is the first time that the validity, the constitutionality of the Code has been openly called in question. But every thinking man here, with a particle of self-respect and self-reliance, has at times felt an inward protest against its unequal operation. I do not ask you to appoint a committee on the Code. Let it stand as it is. Honorable men do not need its protection. Dishonest men are not influenced by its edicts. We must educate the profession up to the recognition of a higher law, the unwritten code regulating intercourse between gentlemen. This is the code that governs in England and France. The man that violates it is by common consent dropped out, ignored and allowed to vegetate in isolation. * * *

"The time will come (but not yet) when your organic laws, like the constitution of our country, will require modifications and amendments to suit a higher intelligence, a broader education, and a greater destiny."

He was elected an honorary member of scores of medical and scientific societies in every part of the world. He was decorated with the Order of the Legion of Honor by the French Government, and also received decorations from the King of the Belgians, and from the Italian, Spanish and Portuguese governments. By special invitation he operated in several of the great hospitals in Paris, Brussels, London and Dublin, eliciting the warmest praise, not only for his rare skill and judgment in his operations, but for his brilliant surgical discoveries. When the Franco-Prussian war broke out, Dr. Sims took charge of the Anglo-American Ambulance Corps as Surgeon-in-chief, winning additional fame by the courage, energy and skill which he displayed. Notwithstanding he received large fees, his services were always at the command of the deserving poor without fee or reward, and the tears which fell from the eyes of old and young in the thronged church at his funeral fully attested his strong hold upon the public heart.

CONSCIOUSNESS.

The investigations in cerebral physiology during the past few years have brought to light so much that is new that our present ideas of brain action have been completely changed. Foremost among the many able works recently published upon this subject is that of

Prof. Wundt on "Physiological Psychology." In a recent issue of the *Princeton Review*, Professor Scott discusses with great clearness the physio-psychological problems of Wundt; in connection, and to make the matter more intelligible, giving an account of the anatomy of the nervous system and the most accepted views of the functions of the different parts of the cerebro-spinal system. That the cerebrum is the organ to the workings of which we trace the operations of conscious intellect is so thoroughly established as a physiological fact that it needs no discussion, but upon the question of localization of the functions of the cerebrum in its cortex, opinions differ widely. Till lately the views of Flourcas were very generally accepted, that all parts of the cerebrum acted indifferently, and that there was no localization in any part of it. Much of the cortex in man and animals may be destroyed without perceptible result. When the amount removed is large, the animal becomes dull and stupid; in the lower vertebrates these effects may be transitory, but they become more permanent as the cerebrum increases in size and complexity, so that they are the most marked in man. Cases of complete destruction of one hemisphere are known with no decrease of mental activity, but without the endurance of the sound brain.

Within the last few years it has been found, by the experiments of Hitzig, Fritsch, Ferrier, Carville, Duret and others, that the cortex, which is indifferent to mechanical and chemical irritation, may be stimulated in different ways by electric currents. Breca discovered that lesions of the third frontal convolutions result in aphasia, and Hughlings Jackson observed that certain localized lesions of the cortex of one hemisphere gave rise to local epileptiform convulsions on the opposite side of the body. Certain parts of the brain are, however, insensible to any form of stimulus, and by this test the cortex is divided into three main areas—an anterior, median and posterior. The median one is most sensitive to such stimulation, and is considered to be the *motor* region, while the posterior is supposed to be the *sensory* region. In the motor region are various definite areas, each one of which calls some special group of muscles into action. The motor centre of speech, for example, is put in the left hemisphere, but it is interesting to note that in left-handed persons it is usually in the right hemisphere. In the so-called sensory region each one of the senses is supposed to have a definite location in the cortex. According to Ferrier, the centre of hearing is in the first temporal convolution; the angular convolution is the centre of sight; the tactile cortex is in the hippocampal region, and on the inner side of the temporal bone is the centre of smell. The intelligence he places in the central lobe, and elaborately divides the whole cortex into small areas, each one of which has its special function. These determinations have been tested by removal of the different areas. The results were partial paralysis, a loss of certain sensations corresponding to the areas previously determined. But the inferences of localization drawn, do not, in many cases, follow from the experiments, nor do the latter fulfill all the requisite conditions. The same

results follow stimulation when the cortex is cut away and the fibres stimulated, or even when a deep hole is made in the brain and the electrodes plunged in the blood. Stronger currents will produce results where weaker ones fail. At all events, says Foster, these various experiments show that the fact of certain movements, following up a stimulation of certain areas, is, in itself, no satisfactory proof that these areas are to be considered motor centres.

The very elaborate and careful experiments of Goltz are entirely opposed to the theory of strict localization. In his recent work he gives a trenchant criticism of the methods and results of those whom he calls the modern phrenologists.

In the first place he points out the untrustworthiness of observations made soon after the operations, as in that case it is impossible to decide how far the results are due to destruction and how far to inhibition of other centres by irritation. He enforces this very strongly by showing the effects which follow the section of the spinal cord in a mammal. Such a wound is never repaired in the sense of a union of the two parts of the cord, but each end gradually heals over for itself. For weeks after such an operation the isolated part of the cord will exhibit no reflexes, these being inhibited by the irritation of the wounded surface, just as in a frog the reflex excited by one sensory nerve may be inhibited by the stimulation of another. When once the cut ends have healed, the isolated part of the cord can perform the most complicated reflexes, though the parts of the body below the section are as completely paralyzed as ever. In all probability, just such inhibitory action is called forth by the operations on the cerebrum, and while it lasts no certain deductions can be made. Goltz avoided this source of error by keeping the animals alive for a long time, sometimes extending over a year or more.

As Wundt very justly observes, it is not probable that in the simultaneous sensations of a sound, a light, and a muscular movement the entire mass of the brain is occupied with all these kinds of action, but rather that they are relegated to different elements. There is probably, therefore, a functional difference in the parts of the cerebrum, but no such constancy as has been maintained.

The mental functions cannot be localized. Because disease of certain parts produces certain intellectual disturbances, it does not follow that they are the producers of that mental process, but merely that they perform some action necessary to its perfection. We must remember that the cells of the latter are very indifferent functionally, and can perform one or another kind of action, in accordance with the circumstances in which they are placed.

Wundt sums up our present knowledge of the complex question of localization as follows:

1. Every nerve element is connected with others, and only then is it capable of physiological functions.
2. No element performs specific functions, but the forces of its functions depends upon its connections and relations.

2. Elements whose function is inhibited or destroyed may be represented by other elements, so far as the latter stand in the necessary connections.

4. Every definite function has, under given conditions of conduction, a definite place in the central organ.

5. Every element becomes the better adapted to a definite function the more frequently it is caused to perform it.

To sum up the psychical functions of the cerebrum, we are justified in saying that the contents of our consciousness, of sense, perception, association and memory are very largely given us by its agency. It is the link which binds us to the external world, by means of which all our knowledge of that world, present and past, is obtained.

Has anything in our investigation given us a clue to the origin and meaning of consciousness? Nothing. Consciousness is an ultimate fact, beyond which we cannot go, and all attempts to explain the transition from the unconscious to consciousness are mere tricks to evade the real question. The materialistic hypothesis regards the soul as a function of organized matter, the result of vibrating molecules in the same sense that heat is the result of such vibrations. But this is entirely untenable. The step from vibrating molecules to thought and feeling is an impassable one, and that unconscious atoms should become conscious by agglomeration into complex molecules is simply unthinkable. Our immediate knowledge is that of consciousness. Consciousness is the fact; matter, the inference.

It seems, therefore, that our science has brought us little nearer to the solution of the main problem, and it may ever be doubted whether it ever can do so. But those who believe that the underlying cause of the universe is *conscious thought*, have at least a standpoint which makes an intelligible answer to this question possible.

IS IT GIVING UP?

The tendency of the age in our profession is undoubtedly toward scientific medicine. It would be amusing, were it not sometimes vexatious, on account of the utter absence of truth of the assertion to see the leading journals of the old school, and some of the leading writers, pause at each new advancement, at every new departure from old methods, to assert that there is nothing homœopathic in all this. In fact, if we are to believe these oft-repeated assertions, not a single new thought, not a single new principle, has ever been introduced to the profession by a school which, they say, has principally been engaged the past eighty years in trading on a name. We turn over the pages of old school journals, and find the pith and marrow of homœopathy enforced in the preparation and application of remedies, and on the very next page ridicule and denunciation of the source from which they have drawn their inspiration, and the facts and reasoning which is lifting their school into something like scientific respectability.

The London *Lancet*, the most bitter and unscrupulous of all old school journals, allows no opportunity to pass of dealing a malicious blow at its life-long foe in state-

ments which are so utterly false, so purely malicious, that, like the boomerang, they return to smite the hand that launched them. In a recent issue of the New York *Medical Journal*, we find an extract from the London *Lancet*, which we give below. Such statements are the weekly and monthly pabulum served to the readers of old school journals.

In answer to a correspondent, who had proposed a test of homœopathy in one of the London hospitals, the *Lancet* says:

"Our correspondent does not seem to be aware that homœopathy scarcely exists, as *understood by Hahnemann*. Its most popular exponent in London has published a new doctrine of therapeutics, directly contradicting Hahnemann's fundamental principle. We published last week the suggestion of a Hahnemannian journal, to drop the word 'homœopathy' out of existence, as the only means of averting the imminent dissolution of the school. We are quite aware that there is a section of the public that believe in homœopathy; but they are attended by those who have abandoned all its essential principles while still retaining the name. The argument that homœopathy only needs a trial is quite untenable. It has been on its trial eighty years—as long, in fact, as vaccination. While vaccination is accepted by the whole world of scientific and rational men, homœopathy is without a chair in any university of Europe, and it is proposed by its own leaders to drop the very name. The attitude of scientific medicine to it *ab initio* is thus thoroughly justified. The attempt to take shelter under the name of Dr. Sydney Ringer is now rather a favorite device of homœopaths. But it will not save either their scientific or their moral position. Dr. Ringer takes medicines as he finds them, and investigates their action in health and disease unhampered by authority, and he does not trade on a name."

It would be difficult to find anywhere else but in the London *Lancet*, and only there when it attempts to enlighten its readers upon homœopathy, so many foolish misstatements as are contained in this short paragraph. We say foolish, because the facts are so open and free to all and so entirely different from the statements made that no one with the slightest particle of moral honesty need be deceived. The gratuitous insult which the *Lancet* and those who follow in its footsteps give to the thousands of cultured minds everywhere who believe in homœopathy, not as a philosophical toy but for the good it has accomplished in their own persons and in those of their friends, only meets the contempt it deserves.

The fundamental principle in therapeutics promulgated by Hahnemann, has not only never been given up but it has so leavened the whole mass of medical therapeutics throughout the world that in that department of medicine it is to-day the central point around which clusters the spirit of scientific progress, as is evinced by the entire change of old school practice and the wonderful "*discoveries*" daily enumerated in their journals, in the writings of their leading authors, and duly labeled as warranted not to be homœopathic. Homœopathy, it is true, as the *Lancet* states, has been on trial eighty years. It not only numbers physicians by thousands who openly avow its principles and its clients by millions, but it has changed the medical practice of the world and pushed it forward centuries on the road of scientific progress.

If the London *Lancet* and its followers insist upon making homœopathy responsible for every idea and every act of Hahnemann, they are quite welcome to all they can make out of their line of argument. According to their logic, a believer in the fundamental principle of homœopathy might as well be expected to prove his consistency by filling his office with tobacco smoke, and by eating saur-kraut, as by believing in and practicing Hahnemann's dynamic and psora theories, neither of which have any more to do with homœopathy than tobacco smoke, or saur-kraut. Gentlemen of the old school! now while the ploughshare of advanced thought and enlightened reason is being driven through the thick sod and matted roots of your old reasoning and prejudices, would it not redound to your credit and help along the cause of progress to endeavor in all cases to familiarize yourselves with the real facts and so far drop the spirit of caste and prejudice as at least to approximate the truth in your statements? Suit yourselves, gentlemen! we have no favors to ask. We intend ourselves, unbound by the chains of any *ism* or *pathy*, to work honestly and faithfully without personal prejudice, for truth and the real progress of our noble art. If your course leads in that direction, we shall be glad of your company.

GRATUITOUS MEDICAL SERVICE.

The subject of gratuitous medical service is exciting considerable discussion in the medical profession of Michigan, in consequence of practices carried on in their University Hospital.

The President of the State Society introduced the matter in the following language: "The State Medical School is a *mater fami'ias*, who gives the world a numerous progeny and then does her best to cut off and destroy their means of support."

This assertion gave rise to the following reply by the Dean of the institution in defense: "Patients come to us; we receive and do the best we can for them, come from whatever source they may. We cannot always know their pecuniary ability. The objections of the address, if sustained, would close every hospital and abolish every clinic in the land."

If all the clinics in the land depend upon mistaken charity and upon injustice to the members of the medical profession, the sooner they are abolished the better.

It is not such a difficult matter to ascertain whether an applicant for charity is worthy or not. Some institutions, and particularly those in the smaller cities, require recommendation by letter from some known citizen before the patient will be received. In a large city like our own, we have a department of charities, where such matters are duly considered, and we suspect few apply to be adjudged paupers excepting under the greatest stress of circumstances. It is from such sources that the great variety of clinical material for teaching purposes legitimately comes, and hence our medical centres for learning must be in the vicinity of

large charity hospitals, and not in the outlets of Aroostook or of Oshkosh.

It is a great mistake to suppose that a medical school may just as well be located beyond the reach of clinical material, and if this fact were more fully appreciated a large number of schools presuming to teach medicine would be closed, and a higher education far more likely to succeed. There is no doubt that teachers in medical schools without the pale of charity hospitals are not as careful as they should be in selecting patients for clinical purposes, and that many of this class are pecuniarily able to employ and pay a medical attendant. In this way charity is abused just as it is when we indiscriminately distribute alms to all who may seek, without regard to deserts.

Some of our large charity hospitals are teeming with clinical material which is entirely ignored by medical teachers, because the greater proportion is of the kind which is met with in every-day practice. It is an error to suppose that the exceptional cases in practice are the ones which will be of the greater service to medical students; it is more important that they be made familiar with those diseases which they will most often meet, and the post-graduate course or the hospital service will provide the rare cases to such as are so fortunate as to obtain them—the others must get along as they can, we are sorry to admit. Of course, the student who follows faithfully a large hospital service will have a chance to see more or less exceptional cases, and no one can afford to neglect such opportunities.

There is undoubtedly much abuse of the plan of gratuitous medical service, in dispensaries and hospitals, the majority of which are supported by voluntary contribution and are therefore private, having been started for the purpose of introducing medical men into practice, and through them these practitioners obtain paying patients.

There is also another class of dispensaries which are the results of individual enterprise, instituted for the purpose of obtaining practice for their philanthropic founders, in which a small fee is charged, or those able to pay are directed to the private office through some means, perhaps by announcement upon the card of admittance to the clinique.

There are also instances on record in which the charitably inclined have been induced to lend their aid to the establishment of hospitals where patients pay a round sum for board, but receive medical treatment gratuitously, and we personally know that these institutions have taken many a patient perfectly able to procure and pay for the best medical advice. Some of these institutions are no more than private asylums for patients who pay a respectable sum for attention to some member of the attending medical staff.

Now, we have not the slightest objection to private hospitals, which, particularly in the case of specialists, are necessary, but we do object, in the name of the profession, to institutions, which, under the guise of charity, purloin well-to-do patients from the profession at large, and make the most they can out of them without regard to conditions and circumstances.

The profession ought to insist that any institution which dubs itself a hospital or a dispensary should be absolutely *free*, and the members of their medical staffs should not be allowed to receive fees under any circumstances, and some means should be employed for establishing the worthiness of the applicant.

We are aware that there is no way of preventing patients from selecting a member of one of these staffs as medical attendant, should they choose to do so, but any honorable gentleman will appreciate and will adhere to the proper ethical course by which he is morally bound in such cases.

The whole plan of gratuitous medical service needs revision, and it should be taken hold of by the profession at large, and regardless of the influence of such as may hold appointments of the character above mentioned.

ON TYPHOID FEVER EPIDEMICS.

For several months past there have been cases of typhoid fever in Port Jervis, N. Y., and recently the number has largely increased. In consequence of this epidemic, Dr. A. P. MacDonald, who was called to treat a large number of cases, instituted an investigation into its causes, which resulted in the conclusion that the milk from a certain dairy was the responsible agent.

In corroboration of this theory, the circumstance was mentioned that during the last few months there have been several typhoid cases upon the dairy premises. Dr. MacDonald bases his opinion upon the following quotation from "Roberts' Theory and Practice," etc., Vol. I., p. 143:

"It has also been clearly proved that milk is not uncommonly the vehicle by which the typhoid poison reaches the system, either in consequence of water containing it being mixed with the milk, or used in washing milk-cans; or from this article of diet becoming tainted in some way with the excreta of patients suffering from the fever. The opinion has been advanced that typhoid may be communicated through drinking the milk of cows fed on soil containing much sewage matter; or from eating flesh of animals suffering from this disease."

This statement is corroborated by numerous other testimony.

There was recently a remarkable outbreak of typhoid in one of the most populous districts of London, which was quite analogous to the outbreak in Port Jervis. The sanitary inspector who investigated the matter succeeded in tracing the epidemic to a single dairy farm, where the water with which the cans and pails were washed had apparently become contaminated by leakage from a cesspool. There had also been several cases of the same disease in the houses occupied by those who were in charge of the farm, and the theory was not untenable that the milk had been directly infected with typhoid germs.

That milk absorbs odors and emanations from substances with which it is brought in contact, and also various elements of the atmosphere, it is not difficult to prove. It is not unreasonable to conclude that it will directly absorb the germs of disease. A recent investigation in Dundee has conclusively shown that scarlet

fever has been communicated from a milkman's family to various households by means of milk stored for a few hours in the house where the sickness originated.

Dr. MacDonald and those who agree with him are therefore quite justified in assuming the position they have. As to how the infection came about will require the most careful study of the chemist and the sanitarian, and we have no doubt the State Board of Health will see to it that this object is attained, and it ought not to be so difficult a matter.

Dr. MacDonald writes us that—

"Dr. F. C. Curtis, Sanitary Inspector of the State Board of Health, came here and looked over the grounds. He found that 75 per cent. of the cases used the milk in question. That is, there are twenty to twenty-two patients reported to have typhoid fever who did not use the milk, and about ninety who did use it. I am told by Dr. D. D. Wickham that two of the cases reported as typhoid who did not use the milk are now well, to his knowledge, and his language was, 'the most singular thing about this is that they did not have the tedious convalescence of typhoid patients.' Dr. Curtis, from what he hinted to Dr. Maroin, member of our local board of health, thinks that probably the State Board would fix on the milk as the cause of the epidemic. If the facts he gathered would not be satisfactory enough they might send some one here to study the history of each case.

"From October 24 to November 1 there were fully sixty to seventy cases developed. Since then only thirty to forty additional ones. In the first week I saw seventeen cases and have seen only nine new cases in the last three weeks. The last case I was called to was on the 11th. The sale of the milk was stopped on the 4th.

"I have five cases in each of two families. In one of these there were three cases on the 25th of October; one lady about 25 had prodromic symptoms as early as the 3d, but kept up till the latter part of last week; and another was taken down on the 8th. Of my twenty-six cases twenty are undoubted typhoid fever, and six are doubtful, on account of mildness of symptoms. The great weakness after defervescence and the appearance of patients being pale and lean, having lost flesh, leave no doubt in my mind but that the disease was typhoid. Further developments may make the diagnosis in two or three of them more certain if any question should be raised. I consider an aborted case at 14 days, without marked symptoms, a doubtful case. I have had two such."

Dr. F. W. Seward, of Goshen, writes that—

"Recently I have had three cases of typhoid fever in the family of a farmer, in the persons of a son and two domestics. Search for the source of the infection developed the following: The well which supplied water to the dairy cattle was located in the barnyard. Noticing that the water became 'a little foul,' as the farmer termed it, he concluded to sink the well a little deeper, after cleaning it. To accomplish this, the son and one of the 'hired help' went into the well, cleaned it out, and began the work of 'sinking.' Diligent pumping from above kept the well sufficiently dry while the men below worked, but the son noticed a strong vein of water constantly flowing in at the bottom which was so foul, so impregnated with the drainage from the yard and manure heap above, that it actually sickened him, and compelled the men to desist from their work. This farmer has been sending milk direct to New York City for years, while during this time his cattle have been drinking water strongly tainted with the washings from the manure heap.

"I could take you through this beautiful county of Orange, which yields the greater portion of the milk shipped to New York City, and show you similar examples by the score. And these, I regret to say, are

very common among the better educated and more thrifty class of farmers. I visited recently a famous 'Model Dairy Farm,' which has the reputation of being very ably and successfully managed, with a view to the production of absolutely pure milk.

"To this end the cows are kept in a stable well ventilated and very clean, and are fed wholesome grains and hay—no fermented grains. The milk is bottled and served direct to customers. All arrangements about the premises are admirable—with one vital exception. The well which supplies water to these cows is under the cow stables, all stoned in tight, with a closed pump on top. Immediately in the rear of the stables is the yard, and in this, under a shed-roof, lie tons of manure.

"One could not cross this yard, except by a path near the barn, without sinking ankle-deep in liquid filth. Under this must run some of the veins which are feeders to the well."

An epidemic which occurred at Solothurn, in the year 1865, and recorded in *Deutsches Arch. f. Klin. Med.* Bd. VII. 1870, P. 168, is very instructive, and indicates the degree of caution necessary in the treatment of patients ill with this dread disease. In this report it is stated that nearly all the premises supplied by water through a certain aqueduct contained cases of typhoid fever, while those not thus furnished escaped entirely. It was found on investigation that a brook which passed through a court-yard of a lunatic asylum, and received its sewerage, ran into the aqueduct. In the asylum a woman had recently died of typhoid, the clothes of the patient had been washed even in the brook itself, and the disease appeared throughout the entire locality supplied by the aqueduct.

From whatever aspect we may view the subject, the responsibility of the medical profession in the matter is quite apparent. It is important that a suspected case should be early quarantined, and that all clothing, utensils, etc., used about the patient should be thoroughly disinfected. That the bed pan used by the patient should at all times contain a disinfectant in solution, and that the excreta should be disposed of in such a manner that the germs upon which the disease depends cannot continue to live and multiply.

In general terms, every means in prophylaxis should be rigidly enforced, and it is both eminently proper, as well as natural, that the study of the causes in general as well as in particular, should be instigated and prosecuted by members of the medical profession.

In order that this result may be more certain of being brought about, it is important that medical men shall make themselves competent for the task by becoming familiar with the literature of the subject, and by keeping abreast the times in their means of scientific investigation.

A STEP IN ADVANCE.

Reports from a large number of physicians who have given the vaccine virus produced by the Ibex Company a careful trial, indicate that an article can now be procured that will act with a certainty that must prove a boon to the entire profession. At the farm in Connecticut no expense has been spared to bring into use everything favorable to the production of superior lymph. An intelligent and experienced physician has charge of

all the arrangements there. The calves are surrounded with every appliance conducive to their health and comfort. The "red Beaugency stock" is carefully cultivated from calf to calf. Each lot of virus is subjected to microscopic tests with high power objectives, to determine the purity and relative vaccinal strength, selections of charged points are entrusted to physicians of experience, and their practical results determine whether the lot of virus shall be condemned, or distributed for purposes of vaccination. Special processes have been applied which have been found to retard the growth of destructive germs, and thus the keeping qualities are greatly improved. Unless a lot of this vaccine stands favorably all these tests, not a quill is allowed to leave the laboratory. So that whoever secures any of this vaccine can repose great confidence in its performance and its absolute purity.

The Ibex Company has been formed by a number of physicians with the object of producing a thoroughly trustworthy article of vaccine. Every suggestion that may be made by practical physicians will be received with gratitude, and if care and experience can advance this important product, which hitherto has been left too much to commercial enterprise which has been too apt to sacrifice quality to quantity and pecuniary advantages, the profession and the public must be benefited by this important work. There are few physicians who have not been annoyed by the results of vaccine which they have been obliged to use, and there is great hope in such an enterprise as this, because it is heralded by neither puffs nor extraordinary discoveries, but promises simply to use every care and precaution science and experience can suggest, strives always to improve the quality and receives with gratitude suggestions of the profession, depending upon its recognized merit alone for reward.

THE RELATION OF DRUGS TO MEDICINE.

In the *British Quarterly* for July, Mr. Crofts, B.A., has attempted to portray under the above title the spirit of modern medicine, and while there is too much therapeutic nihilism to do justice to the great advances made in our knowledge of drugs and their curative effects, there is much in the essay to commend it.

The present status of medicine he thinks due to biology and the immense impetus and advancement this science has undergone within recent years.

The fascinations of biological study and research have engaged the attention of many who have worked under a scientific spirit independently of the merely practical, while unconsciously forming a basis for many of the recent triumphs in medicine.

To the physiological laboratory medicine and surgery owe much. There the quiet worker has made discoveries which the active practitioner had neither the time nor the facilities to work out. He has simply applied the truths there discovered.

It is largely in the domain of hygiene and public sanitation that this biological factor has shown its influence. The study of the pathology and ætiology of disease has naturally led to the prevention of disease, and the development of a science of hygiene which supplements

drugs, if it does not in a large measure take their place.

The old-time physic-taking is passing away, or has already done so. "Doses are getting smaller, pills are dwindling in size, and powders are getting so beautifully less as to suggest at no distant period their final and blessed extinction without hope of resurrection. Drops are substituted for tablespoonfuls, and effervescing salts for the black draught of still blacker memory. The whilom bolus, monstrous in size and nastiness, is an extinct type of physic, and what pills still survive in dwarfed form decorously cover their nakedness in coats of varied hue or present themselves in the seductive guise of *bonâ fide* sugarplums."

But as in all reactions the danger is to an extreme, and a therapeutic nihilism appears, better a thousand times than the old physic-taking, but detrimental to that progress in therapeutics which is slowly but surely asserting itself and which promises so much. While we admit this influence of the biological spirit, the teachings of homœopathy have had a large share in bringing about this change. Its successes and the great strides it has made have shown that we must disassociate the curative actions of drugs from mere notions of bulk and the crude effects of large doses, and that the more intimate our knowledge of drugs, the more carefully we handle them and differentiate them.

From time immemorial there has been a skepticism running through the history of medicine which has boastfully pointed to great lights as supporting its tenets; but this skepticism, we are persuaded, is the offspring of ignorance, which, with our increased knowledge, will disappear. A skepticism which pulls down without building up is fatal to any true progress; better the blindest optimism. Certain it is that our knowledge of therapeutics is growing day by day, and that this pessimistic spirit is disappearing in proportion.

The better we know a drug the more we map out and limit its sphere of action. This does not show less confidence in the drug; less confidence, perhaps, when applied in a general or random way, but a tenfold greater confidence when properly applied.

We must deprecate a spirit which prompts the following: "Upon the whole, it is quite apparent that the drug-treatment of even acute diseases has by no means the dominant and impregnable position which it has been accustomed to assume;" and even more so this statement: "In chronic diseases it may be said generally, medicine has already abandoned the use of drugs for any but very secondary purposes. There is little directly remedial intention in the prescriptions for such affections."

Such a spirit is fatal to any true advancement, and fortunately does not represent the scientific spirit of modern medicine. Look through the transactions of the International Medical Congress, and hope, confidence and just pride show the spirit of the age.

Great indeed has been the influence of biology, but great too has been the influence of our own school in the domain of therapeutics, and no one who keeps abreast of the times can fail to see a spirit of hope and confidence which will work out great results.

BIBLIOGRAPHICAL.

No intelligent reader can fail to be interested in the contents of the *North American Review* for December. The question of the telegraph has the place of honor in the number, Gardiner G. Hubbard pointing out the great advantages that would result from the proposed "Government Control of the Telegraph," and showing from the experience of several European countries the benefits to be derived from the incorporation of the telegraphic with the postal service. Other papers are as follows: Prof. J. Laurence Laughlin shows the "Evils of the Sub-Treasury System." "The Day of Judgment," by Gail Hamilton. Henry George writes of "Overproduction." Gen. W. B. Franklin sets forth views of the "National Defense." "Railroad and Public Time," by Prof. Leonard Waldo. Finally, there is a discussion of the question of "Morality without Religion," by F. A. Kidder and Prof. A. A. Hodge.

THE *Century Magazine* for December contains an excellent likeness of the late Peter Cooper, and its pages are filled with the most interesting articles upon a variety of subjects.

OBITUARY.

DR. LEWIS T. WARNER.

WHEREAS, The wisdom of a Divine Providence has removed, by death, from our midst Dr. Lewis T. Warner, and

WHEREAS, Dr. Warner was at one time a member of the Medical Board of the Homœopathic Hospital, at Ward's Island, therefore

Resolved, That the Medical Board of the said hospital, recognizing the worth of Dr. Warner as a man, his skill and intelligence as a physician, his love of the beautiful in art, his kindness and sympathy to the suffering, and above all his large-hearted humanity as a philanthropist, do hereby express their deep appreciation of the loss that the medical profession has sustained, and tender their sincerest sympathy and condolence to the wide circle of patients and friends who are thus left without his guiding advice and counsel; to the many physicians who loved him for his kindness and geniality, and more especially to the bereaved family now deprived of his ever-watchful care and tender affection. It is further

Resolved, That a copy of these resolutions be spread upon the minutes of the Medical Board of the hospital, and that a copy be also forwarded to the family of Dr. Warner.

CORRESPONDENCE.

THE NEW CODE IN PHILADELPHIA.

MESSRS. EDITORS:—It is really amusing to read the complaints of the Philadelphia "Old Coders" as appearing under editorial sanction in the columns of the *Medical News* of the Quaker City.

While the Philadelphia "Regulars" do not aspire to the culture of either New York or Boston, yet they have a responsible genealogy to maintain; they look back with veneration to the days—

When Shippen, first for stipulated fees,

Taught physic's laws and gave men their degrees;—

when Philip Syng Physic, Dewees, James and Wistar personified the pomposity of old medicine, and regulated the health of the Philadelphians *secundum artem*. The lineal descendants of those big-wigged, self-sufficient doctors, with gold-headed canes and a smattering of Latin,

exhaling dogmatism at every pore, and full to overflowing with humoral pathology, cannot, without a fearful amount of mental, not to say bodily suffering, behold the idols of their forefathers shattered by the modern medical iconoclast. It is too much for the descendants of the worshippers of Percival to see his oracular "ETHICS" trampled ruthlessly under foot, and therefore, blind to the signs of the times, blind to the advancement of science, and blind to the welfare of the entire profession, they endeavor to explain how it comes that the "*New Code*" has been upheld by such overwhelming majorities. In the acute mania they suffer, they forget that their words criminate in a most positive manner a large portion of the medical profession. By what prescience, we should like to know, have these disappointed gentlemen the power to explain the *motives* of action in the minds of the majority of the profession. Harken, oh! harken, to the warble of the disconsolate! "In fact we have earnestly believed that there is but *one way of obtaining the eternal truth of science*, and that is by quietly, but steadfastly, pursuing it until we reach the *goal of demonstration*" (whatever that may be), "and that it does not become the true student of medicine, nor the dignity of his profession, for him to *impede its progress* by stooping to fraternize with what he *believes to be a false science*, because of ANY TEMPORARY ADVANTAGE which might possibly accrue to him for this act, which in this case must have for its chief result the misleading suffering humanity." What innuendo is here! Is it a supposable case, that any honest, not to say honorable man (and, thank God, we believe there are some among those who espouse the new code) so "steadfastly" and "quietly" reaching after that "*goal of demonstration*" (?) would or could stoop to fraternize with what he actually "*believes*" to be false, whether in principle or in practice, and above all in science? Are all the gentlemen who espoused the new code such impostors as to first *recognize a false science*, and, knowing it to be false, knowing it to be untrue, use their influence to propagate the falsehood? Are the ranks of the profession so full of dishonest men as this would lead us to believe? In the name of suffering humanity, we answer, "No."

The editorial, however, in question explains why the physician is thus led away from the paths of virtue.

"Thus bad begins but worse remains behind." It is because of a "*temporary advantage which might possibly accrue to him from this act!*" Is it possible that the editors of the *Philadelphia Medical News* can place such a low estimate upon the characters of the *large majority* of the medical men of the United States? Do the gentlemen who voted the new code have no convictions of their own? Have they no regard for the advancement of truth? Are they all supposed to *believe in a false science*? And knowing a principle to be false, are they so devoid of all honor and uprightness that they will trade upon it for a *temporary advantage*? Out upon such bombastic and small-minded innuendo!

The gentlemen of the new code are acting upon a principle sounder by far than that which, upholding the old-fashioned pompous humbug of the profession, would seek to keep it a close corporation forever. The gentlemen of the new code never for a moment, as we understand the matter, were influenced by personal or pecuniary motives in endeavoring to establish a liberty of thought, a liberty of expression of opinion and a liberty of action.

The gentlemen of the new code have at heart, we believe, the advancement of truth and science, and oppose the idea of shackling the opinions of any member of a profession, the principles and practice of which are so uncertain as those of medicine. If medicine were a positive and certain science, the case would be far different; it is not either; it is uncertain from beginning to end, and being so, every conscientious man has a right to his own opinions in the matter. A new light, however, is beginning to dissolve that awful fog of

dogmatism which has ever surrounded medicine since Hippocrates wrote an aphorism, or Galen went to Rome, and the true physician must stand appalled at the boundless realms before him—realms of such character that they even give tone and magnificence to the age in which we live. The liberal-minded doctor begins to understand that the old and charmed circle of medicine in which were supposed to grow and flourish the wisdom and learning of all time, is broken; he steps without the close confines of antiquated ideas, and finds his mental vision becoming more and more clear; he passes gradually into a higher field of research and inquiry; he begins to observe the correlation between the laws of life and the phenomena of mind, and as he grasps these relationships he naturally separates himself from the contracted reasoning which only tends to bigotry and charlatanism, and accepts a scientific liberality of thought and action that renders him fitted to vote for the new code, without stooping to the deceit of either acknowledging a *false science* or receiving personal advantage from such acknowledgement.

WM. TOD HELMUTH.

OUR LETTER FROM GERMANY.

GÖTTINGEN, GERMANY, Oct. 26, 1883.

MESSRS. EDITORS:—During the past few years Dr. Elstein, Professor of Special Pathology and Therapeutics in this university, has been paying especial attention to obesity, its etiology, treatment and prognosis having an especial interest for him, inasmuch as he himself was burdened and harassed by a load of some 240 pounds of flesh. After giving the subject much thought, and trying a number of experiments upon himself and others, he found that by renouncing all the so-called "hunger," "water," and "medicinal" "cures," and adhering almost exclusively to a diet of fat, he produced exceptionally good results. After employing it in quite a number of cases, which have extended over the past four or five years, he now says, with a degree of certainty, that it accomplishes the desired result without any of the unpleasant consequences that so frequently follow the use of other forms of treatment. Within six months he reduced his own weight to 170 pounds by adhering strictly to his proscribed diet, noticing none of the feelings of weakness and anæmia (as might have been expected), nor an aversion to his food; on the contrary, he declares himself at present to be more vigorous in mind and body than ever before. I have not only seen this reduction in the Professor himself, but, during my stay here, have met several of his patients, who were formerly very fleshy and suffered much during the summer months. After beginning his course of diet, they found themselves gradually losing flesh, but at the same time gaining strength and more enjoyment of life. The treatment is simple enough, but must be continued through life with but very slight alterations. I may as well add his proscribed diet list, as therein lies the whole virtue of his "cure."

Breakfast.—(Winter, 7.30 A.M.; summer, 6.30 A.M.) A large cup of black tea, 250 ccm., without milk or sugar; 50 grm. wheat bread or toasted graham bread with a large quantity of butter.

Dinner.—(Between 2 and 2½ P.M.) Soup, frequently with bone marrow; 120 to 180 grm. meat roasted or boiled, with fat sauce; vegetables in moderate quantity, preference being given to legumes or to cabbage, turnips and potatoes being prohibited. When obtainable some fresh fruit. Compot; salad; occasionally dried fruit without sugar. As drink, two or three glasses of light wine. Soon after dinner a large cup of black tea, without milk or sugar.

Supper.—(7.30 to 8 P.M.) A large cup of black tea, without milk or sugar. An egg or some fat roast meat, or both, or some ham with the fat, dried or fresh fish; 30 grm. wheat bread, with much butter; occasionally a small quantity of cheese and some fresh fruit.

Patient is urged to take considerable exercise, but not of too violent a nature. Regular hours for sleep, but not in the afternoon.

One would think that after a short time this diet would become distasteful, the excess of fat nauseating, and finally the patient be compelled to discontinue its use. But we find from the reports of the cases that the appetite remained good, and no dyspeptic symptoms were present. Ebstein even mentions that in severe cases of dyspepsia he reduced the amount of carbohydrates and increased the amount of fat in the food, and had surprising results therefrom. He also brings to bear upon the "easily digestible qualities of fat," the results of observations made in cases of gastric fistula, which are, "the fat only disturbs the stomach digestion when given in too large quantities." He extends the use of fat in excessive amount in the food even further, and cites marked results in cases of diabetes mellitus and in fatty degeneration of the heart. However, in the latter, I am inclined to think that the fat must have been outside of the heart rather than in its walls. He traces back his cases of obesity to a hereditary cause, but acknowledges that the development is chiefly owing to large amounts of rich food and spirituous liquors being indulged in. He also cites anæmia as being an exciting cause, explaining it, that during such a condition, the red blood corpuscles become greatly diminished, and therefore the oxidation of the blood becomes defective and insufficient. Obesity is the result. He declares that if any at all, only very slight differences can be detected by aid of the microscope between fatty degeneration and obesity. His only point of differentiation is, that the former soon goes into a state of necrobiosis, while in obesity the elements become filled with fat, but do not cease to live.

He thinks that fat introduced in excess into the organism causes a diminution of the fat already therein contained, but if combined in certain proportions with carbon hydrates it has the opposite effect. He seems anxious for no one to mistake his views, for he emphasized his remark that "If one said I treat obesity with fat, it would be a mistake. I only place fat in its proper place as a food."

Whatever may be his theory of the action of the fat so introduced, it should not prevent the treatment from receiving at least a trial, more so as we do not have the dangers threatening its use, as is the case in Banting's and other "cures."

JNO. M. FOSTER, M.D.

A NEW MEDICAL SOCIETY.

The New York Society for Medico-Scientific Investigation was recently organized for the prosecution of original research in medicine and the collateral branches. Its inception was in the minds of two or three physicians, who at first had nothing further in view than a small society for medical discussion. Upon exchanging views, the scope of the work which could be properly undertaken seemed great. The line of investigation open for pursuit is something as follows: First, the introduction, and proving of new drugs. Second, the reproving of drugs of which the pathogenesis is incomplete or inaccurate. Third, the collection of data bearing upon disease in general, which would include the investigation of epidemics, their causes, the conditions present, such as atmospheric and climatic, the relation of drugs thereto, the so-called season remedy, the limit of drug attenuation, etc. In short, to accumulate data bearing upon the relations of *Materia Medica* to morbid conditions, that in the future it may serve as a starting point to their temperaments, habits, manner of living, etc., will all be carefully noted, and, as far as possible, all elements of error carefully eliminated. Every member of this society has pledged himself to earnest work. The society proposes to work for the profession. Communications or contributions may be addressed to the New York Society for Medico-Scientific Investigation, at 201 East 23d street.

IMMEDIATE removal of the secundines after abortion is strongly advocated by Dr. Paul F. Mundé, in indorsing a paper by Dr. T. J. Alowny, of Edinburgh, both papers appearing in the February number of the *American Journal of Obstetrics*. They both insist upon the importance of removing the secundines immediately, either by means of the finger, when possible, to bring the uterus within reach, or by a dull curette when the finger or fingers cannot accomplish the object. If the physician is called soon after the expulsion of the fetus, he will generally find the os and cervix sufficiently dilated to enable him to do this at once. If the os has again contracted, it must be dilated with a tent. Dr. Mundé recommends the tupelo tent as far better than either sponge or laminaria. After the placenta and membranes have been thoroughly removed the cavity of the uterus should be carefully washed out with carbolized water, either very cold or very hot; and the hemorrhage is then almost entirely arrested at once and the patient makes a rapid recovery.

MICROCOCCHI are now positively declared to be the cause of erysipelas by Dr. Fehleisen, Bergmann's assistant. He has isolated them, cultivated them on gelatine through fourteen generations. He then inoculated rabbits, and also men, with the pure organisms, and produced in most cases a typical erysipelas. The inoculations were made in seven patients who were suffering from lupus, cancer and sarcoma. One case of lupus was almost completely cured, in another case the cancerous tumors disappeared, in another of fibro-sarcoma the tumor diminished in size. In the other four cases no especial effect of the tumor was noticed.—*Med. Record*.

LAVILLE'S GOUT MIXTURE—An analysis of this medicine was published in a recent number of the *Berlin Industrie Blatter* as follows:

Quinine.....	0.5	grammes.
Cinchonine.....	0.6	"
Colocythine.....	0.25	"
Lime Salts.....	0.49	"
Coloring Matter.....	0.3	"
Alcohol.....	10.0	"
Water.....	8.5	"
Port Wine.....	80.0	"

GALLIUM APARINE IN CANCER.—Referring to the use of this drug, Dr. Charles Boyce writes to the *British Medical Journal*, July 7, 1883:

"*Cliver*, or *gallium aparine*, has the reputation of reducing the size and diminishing the pain of cancer; the latter I have noticed in a marked degree in a case where I recently employed it locally; my patient, indeed, rebuked me for not telling her of it sooner. It certainly seems to have power in arresting the ulcerative action and in promoting a more healthy one."

WOOD-WOOL; A NEW SURGICAL DRESSING.—In Germany the reign of *carbolic acid* is over, and *corrosive sublimate*, or *sublimite*, as it is there called, reigns in its stead. Many substances impregnated with *sublimite*, such as glass, wool, ashes, sand, etc., have been employed as attempts at permanent dressing with greater or less success. Something has still been wanting—something that will absorb a large quantity of discharges and at the same time remain aseptic. Professor Bruns' (Tubingen) wood-wool (*holzwoolle*) is finely ground wood, such as is used in the manufacture of paper. It is clean-looking, delicate-fibered, soft, yellowish-white, having an odor of fresh wood, and absorbs immensely.

ANÆSTHESIA.—The experiments of M. Paul Bert show that the method of administering *chloroform* is best and least dangerous by which the patient is quickly anesthetized by a large quantity, and then kept under the anæsthetic by a much smaller amount.

GALVANISM IN BASEDOW'S DISEASE.—Dr. Chvostek recommends (*Centralbl. f. klin. Med.*, June 23, 1883) the following method:

1. The ascending constant current applied to the cervical sympathetic, on each side, for at least one minute.
2. The same to the spinal cord; the anode at about the fifth dorsal spine, the cathode high up in the cervical region.
3. Through the occiput one pole at each mastoid process, and in certain cases also through the temples, a constant current, for, at the longest, one minute, and so weak that the patient can feel but the slightest sensation of burning. Sometimes also local galvanization of the thyroid gland, with a weak, constant current, for about four minutes, the current to be reversed at the end of each minute.

The application should be made every day if possible.

DR. T. GAILLARD THOMAS says, in answer to a question by one of his clinical class. There is undoubtedly great danger of propagating cancer by sexual intercourse, and repeated instances of cancer of the penis being contracted in this way are on record. The slightest abrasion of the penis may be sufficient for the absorption of virus, from the malignant growth, and the husbands of women suffering from cancer of the uterus should, therefore, be warned against intercourse with their wives. This, as you see, is a matter of very considerable importance, and I am glad that the point has been suggested.—*Med. Review*.

TREATMENT OF NON-SPECIFIC ULCERS OF THE LEG.—Dr. Smith Baker thus writes about it in the *Medical Record*, August 4, 1883:

"Hence, what can be better for local treatment than to order the surface cleansed thoroughly at bed time with a weak solution of *potassium permanganate*, also in the morning with a medium solution of *potassium chlorate*, and after having covered it lightly with absorbent cotton to have drawn over all a *well and snug-fitting elastic stocking*, with instructions to go about the usual labor, using the limb freely but not senselessly? At any rate, in nine-tenths of cases, this, according to my recent experience, seems to be all-sufficient; while in the other one-tenth a few days' rest and preliminary treatment with the same lotion and a pure rubber bandage seem to be equally necessary."

IODOFORM IN OPHTHALMIC PRACTICE.—The following conclusions are drawn by E. Fischer, of Gratz:

1. *Iodoform* is well borne by the majority of patients.
2. It is the most effective agent against pannus scrofulosus and trachoma.
3. It renders excellent service as an antiseptic.
4. It hastens granulation and speedy regeneration of corneal epithelium.
5. In dacryocystitis and its consequent blennorrhoea it is not to be underestimated.

Kazaurow (*Wratsch*, No. 42, 1882), also speaks in the highest terms of the drug. In several cases of extraction he was unfortunate enough to have escape of vitreous, with luxation of the lens and consequent iridocyclitis or phthisis bulbi. In two such cases, after using *iodoform* dressings there was not the slightest appearance of inflammatory reaction.

M. DUPRÉ concludes that the liver is the chief source of urea formation.

WARBURG'S TINCTURE, which has been found so efficient in obstinate forms of miasmatic fever, but which most physicians never prescribe without an apology for its nauseating taste, is now evaporated to a mass and given in capsules.

EPIDEMIC WAVES OF DIPHTHERIA.

Under the above title Dr. H. B. Baker, Secretary of the State Board of Health, of Michigan, has a paper in the transactions of the Michigan State Medical Society for 1883, the conclusions of which, in the form of questions and answers, are as follows:

"1. Does diphtheria generally increase and decrease coincidentally with any known climatic condition of the atmosphere?"

"*Answer.* Studied by months of the year, it does; it causes more deaths in cold than in warm months. But when studied by periods of years the crests of the epidemic waves do not seem to have such a uniformly close relation to cold years.

"2. Does diphtheria generally increase or decrease coincidentally with any known condition of filth or purity of the atmosphere?"

"*Ans.* I cannot discover that it does.

"3. Does diphtheria generally rise and fall within comparatively regular periods as do those diseases which seem to depend upon susceptibility of the people to the disease, or to the so-called 'epidemic influence'?"

"*Ans.* It does.

"4. What is the frequency of the epidemic wave, or the length of the most common period between years of its greatest prevalence?"

"*Ans. (a.)* About twenty instances in cities and thickly settled countries where means of contact are greatest, show an average period of between five and six years.

"*Ans. (b.)* In sparsely-settled country districts four instances show an average period of about fourteen years.

"5. Do the epidemic waves of diphtheria occur everywhere throughout the world at the same time?"

"*Ans.* They do not.

"6. Are the epidemic waves of diphtheria most coincident in countries having the closest or most rapid communication with each other?"

"*Ans.* In some instances this seems to be the case.

"7. Are the statistics of vast numbers of deaths from diphtheria in many different countries, throughout extended periods of time, consistent with the hypothesis that diphtheria is in some way communicated from one country to another, and from person to person?"

"*Ans.* They are consistent with that hypothesis. They are not so consistent with any other hypothesis which has been offered.

"8. Are the statistics, as far as studied, consistent with the hypothesis that there are more or less regular periods of comparative general insusceptibility of the people to fatal diphtheria?"

"*Ans.* They are.

"9. Does the period of comparative insusceptibility to fatal diphtheria bear any relation to the age of the persons most liable to die of diphtheria?"

"*Ans.* It does seem to bear some relation, there being frequently four, five and six years between the years of greatest mortality from this disease. The average in several cities and thickly settled countries has been between five and six years, and, in a few comparatively sparsely-settled States, about fourteen years. This longer period, between years of greatest prevalence of diphtheria, in sparsely-settled States than in cities, when taken in connection with the fact that the epidemic waves seem to reach comparatively higher points when thus approaching a maximum slowly, while in the intervals between epidemic waves the deaths from diphtheria in sparsely-settled countries reach a very low ebb compared with that in cities, seems to me to be very strong evidence in favor of the view that the most general and most common cause of diphtheria is contact with something derived from a previous case of diphtheria; and that besides the comparative insusceptibility of communities, in which many children have already died with or recently had diphtheria, the comparative extent

and complexity of the modes of intercourse in city and in country districts is an important factor in determining the length of the period between epidemic waves of diphtheria.

CURE OF SQUINT WITHOUT OPERATION.—In the early stages of convergent strabismus, before the internal rectus muscle is permanently contracted, Dr. Boucheron (*Schmidt's Jahrbucher*, January 17, 1883), claims that a cure is possible without operation. He states that as convergence is caused by efforts of accommodation for near objects, if we take away the power of accommodation squint will not occur. He maintains a constant mydriasis by the instillation of *atropine* night and morning. A cure is usually obtained in two or three weeks. If *atropine* is not well borne, other mydriatics, such as *duboisia*, may be used. In nine cases of intermittent strabismus the author obtained eight cures by this method.—*Med. Record*.

ACUTE PRIMARY RETRO-LARYNGEAL ABSCESS.—Groix concludes an elaborate study on this subject as follows:

1. Acute primary retro-laryngeal abscess consists in an inflammation of the connective tissue in the retro-laryngeal space.
2. Its appearance is characterized by the simultaneous occurrence of fever, laryngeal pain, feebleness and hoarseness of voice, cough, dysphagia, and symptoms of laryngeal stenosis.
3. Normally, when moved from side to side, the posterior edges of the thyroid cartilage may be felt to glide over the vertebral column; this thyro-vertebral friction disappears in retro-pharyngeal space.
4. The gravity of this disease cannot be explained by the mere interference with respiration from oedema of the glottis; the inflammatory irritation of the various laryngeal nerves should be taken into consideration.
5. The best treatment seems to consist in the administration of large doses of *tartar emetic* and the application of several blisters. If tracheotomy is required by the urgency of the symptoms, the pus should be evacuated, even after this operation.—*Arch. Gén. Méd.*—*Med. News*.

DIABETES. (By O. C. Knight, Atchison, Kansas.)—I have been for the past eight years experimenting in the cure of diabetes, and find *citrate of soda*, in daily doses of half a drachm, an excellent remedy in this disease. I have proved it by analysis, that sugar disappears from the urine when this salt is used with the food instead of common salt. I have also ascertained that the alkaline salts of organic acids, when given in doses too small to produce purgative effects, are absorbed, and their acid being destroyed or burnt up in the respiratory process, are eliminated by the urine as carbonates. Hence *citrate of soda* may, without interfering with the gastric acid in the same way as alkaline carbonates, place the system under the influence of an alkaline carbonate which is indispensable to the intestinal combustion of the glucose of the food.—*California Medical Journal*.

REMOVAL OF THE GALL-BLADDER.—At a recent meeting of the German Surgical Congress in Berlin, Dr. Langenbach, of Berlin, showed a woman, aged 34, from whom he had removed the gall-bladder. The patient had suffered from gall-stones for nine months; the gall-bladder was felt as a hard, prominent, sensitive tumor. On opening the abdomen, the gall-bladder was found to be hypertrophied and adherent to the neighboring tissues, and to contain a large number of stones, some of them adherent to the walls and threatening perforation. The viscus was emptied by a Pravaz syringe, and then easily detached behind the cystic duct; and the patient now looked well and blooming, although she had had a floating kidney removed in 1881.

EFFECTS OF NOISE UPON DISEASED AND HEALTHY EARS.—Dr. D. B. St. John Roosa has an interesting paper on this subject in the *Archives of Otolaryngology* for June, 1883. From all the observations he has been able to make, he thinks himself justified in drawing the following conclusions:

1. There is a large class of people suffering in quiet places from impairment of hearing, who hear very acutely and with comfort amid a great din or noise.
2. The disease causing the impairment of hearing thus relieved is situated in the middle ear. It is usually observed in the chronic, non-suppurative form of disease of the middle ear, but it may also be found in acute or sub-acute catarrh of this part, as well as in a chronic suppurative process with loss of the whole or a part of the membrana tympani.
3. The proximate cause of this phenomenon is not as yet positively known. It is probably to be found in some change in the action of the articulations of the *ossicula auditus*.
4. The hearing power of persons working in such a din as that of a boiler shop invariably becomes impaired.
5. The lesion caused by this occupation is that of the labyrinth, or of the trunk of the acoustic nerve.
6. Persons thus affected do not hear better in a noise. Their hearing power is better in a quiet place, and becomes better after prolonged absence from the exciting cause of their impaired hearing.
7. The cases of inspissated cerumen, catarrh of the middle ear, occurring among boiler-makers, are such as occur among those employed in various occupations, and only mask and complicate the fundamental primary trouble, so long known as boiler-makers' deafness.
8. In diseases of the labyrinth or acoustic nerve the tuning fork "C" is heard louder and longer through the air than through the bones of the head.

The following table shows the difference between lead paralysis and kindred nervous disorders:

LEAD PARALYSIS.

1. Paralysis precedes atrophy.
2. Extensor muscles only affected.
3. Muscles show degenerative reaction.
4. Large cells in anterior horn degenerated.

PROGRESSIVE MUSCULAR ATROPHY.

1. Atrophy of muscles precedes paralysis.
2. All the muscles of the body are affected, associated with rigidity of joints, bulbar paralysis and rapid lethal termination.

POLYOMYELITIS ANTERIOR.

(Almost identical with lead paralysis.)

1. Extensor muscles only involved.
2. Muscles show degenerative reaction.
3. Histological appearance same as in lead disease.—*N. Y. Med. Jour.*

HIGHER MEDICAL EDUCATION IN THE WEST.—The new department in the University of Colorado is located at Boulder. Its announcement declares that "all candidates for admission, except those who have passed an examination for admission to the University of Colorado, must present a degree in Letters, or Science, from a recognized College or Scientific School, or a High School diploma, or pass an examination in English, Latin, Physics, and in such one of the following branches as he may elect: German, French, the elements of Algebra or Plane Geometry or Botany." It furthermore provides that these examinations shall be conducted in writing, and that the papers, which shall be preserved by the secretary, shall be open for inspection. The curriculum consists of a graded course of four years of nine months in each year.

MISCELLANY.

—An outbreak of trichinosis is announced in Russian Saxony.

—The members of the Pasteur mission to Egypt have returned.

—The Garfield Memorial Hospital is being built in Washington.

—A physician of the new school is wanted at Woodsbury, L. I. Address M. Wood.

—A bust of the late Dr. Sims has been unveiled in the hospital which he founded.

—It is stated that asthma has been cured by galvanizing the neck daily for ten days.

—Tourguenief is said to have had the heaviest brain of any human being who ever lived.

—An ophthalmoscopic examination should be made in every case of persistent headache.

—Thirty per cent. of the candy sold is white earth, with a liberal sprinkling of the black article.

—Surgeon Robert Murray has been appointed Surgeon-General, U. S. A., *vice* Crane, deceased.

—We extend our sympathy to Dr. M. T. Runnels, of Indianapolis, in the loss of his only daughter by diphtheria.

—Dr. Geo. T. Stewart, late of the House Staff of the Ward's Island Hospital, has located at 162 West 44th street, this city.

—So rapid is the increase of insanity in France that a sane man will ere long be the exception, unless the malady is checked.

—Dr. Mott D. Cannon, late of the House Staff of the Ward's Island Hospital, has located at 159 W. 128th street, New York.

—The sum of \$50,000 has been voted for the erection of a physiological laboratory for Dr. Burdon Sanderson at Oxford.

—A writer in the *London Lancet* recommends in diphtheria a spray of *eucalyptus*. Thirty-seven cases of recovery are reported.

—The Philadelphia Hospital for Skin Diseases announces a great variety of baths to which the attention of the profession is invited.

—Dr. Squibb has substituted for the blue and red litmus paper one of purple, which turns red with acids and blue with alkalis.

—The ambulance service is to be improved, it is stated, by the establishment of facilities for signaling at the elevated railroad stations.

—Dr. Thuillier, a member of the Pasteur Scientific Mission, sent to investigate the Egyptian cholera, has fallen a victim to the scourge.

—The death rate in Billroth's Clinic was 9.5 per cent. in 1881, and in 1882 it sank to 6.3 per cent. *Iodoform* gets credit for the improvement.

—A writer points out the "verbal pitfall" into which many fall, of speaking of malaria as though it were a disease instead of a cause of disease.

—Those subscribers who have so promptly responded to our appeal will please accept thanks, and we are anxious to hear from some others yet.

—*Gaillard's Medical Journal* has returned to its old form. It is now the only monthly medical journal of the old school published in New York.

—A DAILY MEDICAL JOURNAL.—Some enterprising parties in Paris have started a daily medical journal. It is called *Journal Medical Quotidien*.

—THE CHOLERA AT MECCA.—A dispatch from London, dated November 5, states that there have been 240 deaths from cholera at Mecca in one week.

—In the *British Medical Journal*, June 30, 1883, Dr. Arthur E. Baker reports a case of popliteal aneurism cured by digital compression in less than nine hours.

—The *London Lancet* denounces the impudence of an enterprising undertaker who sends physicians a circular offering a commission to such as will recommend him.

—Professor J. A. H. Depaul, the celebrated obstetrician, Professor *agrégé* in the faculty of medicine of Paris, has recently died of pneumonia, at the age of 72.

—The Commissioners of Public Charities and Corrections estimate that \$1,711,377.50 will be required to maintain the institutions under their care during the coming year.

—It is announced that Dr. Calvin Ellis has resigned the Deanship of the Harvard Medical School, and that Dr. H. P. Bowditch has been appointed his successor.

—Cremation is reported to have been made compulsory in Lisbon in times of epidemics, and every five years all bodies that have been buried are to be incinerated.

—A few crystals of *chloral hydrate* rubbed on utensils which have the odor of *valerianate of ammonia* is said by a correspondent of *New Remedies* to be very effectual in removing the odor.

—There are two vacancies in the House Staff of the Ward's Island Hospital. Candidates may address Dr. C. A. Bacon, 130 East 35th street, and must be willing to serve eighteen months.

—*New Remedies* states that twenty per cent. of *tartaric acid* added to any of the salts of *cinchona*, and the mixture moistened with water, will make a mass easily soluble when made into pills.

—Oophorectomy in a girl eight years of age was recently performed successfully by a French physician, Dr. Dechamp. The left ovary and a large part of the Fallopian tube were removed.

—Dr. Henry L. Obetz, of Paris, Ill., has been elected to the chair of Surgery, and Dr. Newton Baldwin to the Chair of Diseases of Women and Children, in the Homœopathic Department of Michigan University.

—Edinburgh University has nearly completed its three hundredth anniversary. In 1883 its students numbered 3,340, and when its new buildings are completed it will be the largest university in the world.

—Dr. T. M. Strong, Chief of Staff, reports 755 patients treated at the Ward's Island Hospital during October, with a mortality of 1.99 per cent. Total admissions for the ten months, 5,565 with a death rate of 4.89 per cent.

—A man was recently restored to sight from cataract, by a blow which felled him to the floor. The blow must have been most peculiar, and the cataract a very soft one. This operation has not yet been adopted by oculists.

—The Emperor of Russia has ordered a hospital to be opened in St. Petersburg for diphtheritic patients, where the Homœopathic treatment only will be adopted. A matron and eight nurses have been sent by the Red Cross Society.

—Puck says that the medical student and the young man who writes for the newspapers are very much alike, in this—that frequently each is in want of a subject. The subjects are also often alike in that they are pretty sure to get cut.

—Professor Dujardin-Beaumetz proposes a return to "blood-letting after the manner of our fathers." As well might he ask us to return to the stage coaching "of our fathers" after we have experienced the beneficence of other means.

—Trichiniasis is said to be raging with extreme severity in some parts of Germany. At Ermsleben some of the inhabitants of nearly two-thirds of the houses are stated to have been attacked. Up to the 21st ult. twenty-three deaths had resulted.

—Mr. John P. Howard has contributed \$40,000 additional, making in all \$400,000, to the University of Vermont. It is delightful to hear of such generosity, for it leads to a higher education, in making our colleges independent of the fees of students.

—A Portuguese physician reports that he has cured seven cases of hydrophobia by simply rubbing garlic into the wound and giving the patient a decoction of garlic to drink for several days. Some would say, "the remedy was worse than the disease."

—Most of the modern hospitals in India are lined with the smooth and washable substance known as *chunam* (mortar made with lime produced from a small shell and varnished). The nearest approach to it with us is the glazed tile, that ought to be in more general use.

—Voltolini, who has had great experience, thinks that it is a misdemeanor to give large doses of *quinia* in intermittent fevers, on account of the possibility of producing quinine-amaurosis or deafness. He recommends smaller doses for longer periods, and assures us of obtaining better results.

—In carrying children in the arms care should be taken not to carry them habitually on the same side, as this tends to make them one-sided. Not only the bodies, but the heads and faces of a whole family can sometimes be drawn over to one side. The only remedy is to change the position frequently.

—Dr. Sawyer, who kept a boy in buttons ringing his bell at unseemly hours and calling him out of church during divine service, has been entirely outdone by the Paris doctor who furnished his house in a weird and fantastic fashion, and only saw his patients at midnight or in the early gray of morning.

—Mahomet Ismail Khan, an Afghan, who had been admitted a member of the Royal College of Surgeons, and a Licentiate of the Royal College of Physicians, recently committed suicide in London, on account of his inability to obtain professional employment. His name and color were insuperable barriers.

—Dr. Burdon Sanderson predicts that Koch's discovery of the bacillus tuberculosis will, beyond the possibility of a doubt, serve as the foundation of an efficient prophylaxis against pulmonary consumption and the other less familiar forms of tubercular disease connected with it by unity of origin and of issue.

—We have reason to believe (says the *British Medical Journal*, Sept. 29, 1883) that a medical congress will be held at St. Petersburg next October for the purpose of discussing all matters connected with cholera. MM. Charcot and Pasteur and other European authorities are said to have promised to be present.

—Dr. Edwin Freeman (as well as Dr. Tytler, in a recent contribution to the *Times*) recommends *pelletierine*, the alkaloid of *pomegranate bark*, for the destruction of *tœnia solium*. The advantage of it is, a small dose will do the work, and a delicate stomach can accept it without the nausea attending the old method.

—The acid of gastric juice is said by M. Poulet (*Jour. de Méd. de Paris*) to be neither lactic nor hydrochloric acid, but hippuric acid in the form of acid hippurate of potassium, combined with neutral phosphates of lime and sodium. He claims that microscopic examination of the crystals and experiments with dialysis demonstrate this conclusively.

—A druggist in Paris, having been convicted of adulterating *sulphate of quinine*, has been sentenced to a year's imprisonment at hard labor. In addition, he is to pay a fine of a thousand francs, his name and crime are to be published in twelve political and twelve professional papers, and should he ever re-open his store, to the door thereof is to be affixed a sign: "Sentenced for adulterating *sulphate of quinine*."

—HOMŒOPATHY IN CANADA.—The way "homœopathy is dying" in Ontario, Canada, is illustrated by the fact that the President of the Medical Council, the ex-officio head of the medical profession, is this year an avowed homœopathist, and a graduate of a homœopathic college, and he has been elected to that position by a two-thirds vote of a body in which allopathic physicians have a majority of five to one.—*Popular Science Monthly*.

—The discovery of a subterranean sewage pond under Madison avenue shows to some extent the dangers to which we are subjected, as the workmen who tapped this reservoir were driven from their work by the terrible stench emitted. This is not the only instance in which natural water-courses have been stopped by damming, regardless of consequences. These underground water-courses are known to our City Engineers, and steps should at once be taken to afford them an outlet. The Board of Health should investigate the subject.

—Sir Henry Thompson, writing to the *Lancet*, October 27, concludes as follows: "When the bladder of an elderly man fails to empty itself, let him learn to use a soft catheter without much delay; thus life with comfort may often be prolonged to its natural term. Neglect the catheter until chronic disease of the organ is established, and a catastrophe may then be hastened by the use of the instrument. Scores of men whom I know in this town between sixty and eighty years of age, still active, mature in mind, and more than ever serviceable to their fellows, owe their existence entirely to habitual catheterism."

—There was once a small Dog, with a bright collar and a short chain, who was fed every day upon milk, and who barked at all the other dogs. One day a Mongrel dog passed by, and when the small Dog barked he stopped and asked why he made so much noise. The small Dog replied that it was for the purpose of recommending a collar, a chain and a milk diet to all other dogs. But the Mongrel said to him, "Your collar shows whose dog you are, but I am my own dog. Your chain prevents you from going where I choose to go. A milk diet may be nourishing enough for you, but I prefer meat." And with that he left the small Dog to his collar, his chain and his milk diet, and has remained a Mongrel ever since.

Moral.—A barking dog shouldn't throw stones.

—Three months free will be accorded to new subscribers remitting on or before January 1st, 1884.